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ERRATA.

- Page 15, line 20, read, Tui is brought from a consider-
 able distance.
 Page 20, line 3, for Baymore, read Baymore.
 — do — 27, for combing, read combusted.
 — do — 28, read, making his hard work more than he
 could.
 Page 21, line 18, for property, read properly.
 — do — 22, in the note, for salary, read endorsement.
 — do — 23, for h, read signature.
 — do — 24, for Appendix, No. 7, read Appendix.
 Page 25, line 1, for planned, read planned.
 Page 26, line 1, read the justice there: and at certain dis-
 tances, in such cases, on the declivity of rising
 ground, which are flat, &c.
 Page 27, line 1, read making one kind of dung go as **Em**, &c.
 — do — 2, read from a proper selection, &c.
 — do — 3, in the list of the row, add, to do much work.
 — do — 4, for the, read, gift of hay.
 — do — 5, for good eye, read eye.
 — do — 6, read, of a most excellent breed.
 — do — 7, in the note, for lucky per barrel of 20 stone,
 read in barrel of 10 stone.
 Page 28, line 1, for people, read people.
 Page 29, line 2, for Henry VIII. read, James I.

STATISTICAL SURVEY

OF THE



Dublin

PRINTED BY GRAISBERRY AND CAMPBELL,
NO. 10, BACK-LANE.

1802.

ERRATA.

Page 15, line 20, *read*, Turf is brought from a considerable distance.

Page 44, line 3, *for* Baymore, *read* Beymore.

— 80, — 27, *for* contributes, *read* contributed.

— 83, — 13, *read*, making his horse work more than he should.

Page 90, line 18, *for* property, *read* properly.

— 93, — 1, in the note, *for* salary, *read* endowment.

— 160, — 13, *for* 8, *read* eighteen.

— 204, — 10, *for* Appendix, No. 7, *read* Appendix, No. 9.

Page 206, line 1, *for* planteed, *read* planted.

— 269, line 14, *read the sentence thus*: and at certain distances, parallel to each other, on the declivity of rising grounds;—these are filled, &c.

Page 284, line 4, *read*, making one load of dung go as far, &c.

— 309, — 22, *read*, from a proper selection, &c.

— 328, *to last of the note*, *add*, to do much work.

— 329, line 3, *for* 3lb., *read*, 36lb. of hay.

— 332, — 7, *for* good age, *read*, size.

— — 9, *read*, of a most excellent breed.

— 354, *in the table*, *for* barley per barrel of 20 stone, *read*, per barrel of 16 stone.

Page 401, line 12, *for* purposes, *read*, purpose.

Appendix.—Page 3, line 2, *for* Henry VIII., *read*, James I.

STATISTICAL SURVEY

OF THE

COUNTY OF MEATH,

WITH

OBSERVATIONS

ON

THE MEANS OF IMPROVEMENT;

DRAWN UP

FOR THE CONSIDERATION, AND UNDER THE DIRECTION

OF

The Dublin Society.

BY

ROBERT THOMPSON,

OF OATLAND.

Dublin.

PRINTED BY GRAISBERRY AND CAMPBELL,

NO. 10, BACK-LANE.

1802.



TO THE READER.

This REPORT is at present printed and circulated for the purpose merely of procuring further information, respecting the state and husbandry of this district, and of enabling every one interested in the welfare of this country, to examine it fully, and contribute his mite to its improvement.

The Society do not deem themselves pledged to any opinion given by the Author of this Survey; and they desire, that nothing contained in it be considered as their sentiments; they have only published it, as the report of the gentleman, whose name is affixed, and they publish it for the comments and observations of all persons, which they entreat to be given freely, and without reserve.

It is therefore requested, that the observations on reading this work may be returned to the Dublin Society, as soon as may be convenient, and which will meet with the fullest attention in a future edition.

PREFACE.

TO display the *present* state of agriculture in the county of Meath, to detail impartially its errors and its excellencies, and to lay before the public eye the “what is” rather than the “what ought to be,” has been the object of the Author of this Survey. If he has, in some instances, departed from this principle, and presumed to recommend a change of culture, or to point out what appears to him a correction of some reprehensible practice, it has been done either from a conviction of its beneficial effects, or from the undoubted experience of other persons.

For the accuracy of the information, and the unbiassed report of it, he pledges himself with confidence, having spared neither expence nor pains, in procuring the most precise and detailed information upon the various subjects of husbandry.

But too conscious, how much the language and arrangement of them require an apology, he entreats the reader to consider, that they are the production of a man little used to literary pursuits, and to committing his ideas to paper, and much less to the preparing of them for the inspection of the world.

There being no very interesting objects of mineralogy in this county, and the antiquities not being immediately connected with a view of agricultural practice: he has not given them a separate discussion, but has interspersed the few materials, which Meath affords for the former,
under

PREFACE.

v

under the head of soil and surface; and the latter he has mentioned, in a concise epitome of the general history of the county, which he has prefixed in the form of an introduction; for this part of the work in particular, as well as for the whole, he once more solicits the indulgence and candour of the public.

INTRODUCTION.

INTRODUCTION.

THE county of Meath, as some writers assert, has taken its name from the Latin word *Media*, expressive of its central situation, its boundaries having extended, at an early period, to the centre of the kingdom; whilst others are of opinion, and with greater appearance of truth, that its name is derived from the Irish word *Maith*, or *Magh*, which signifies a plain or level country.

This supposition is further strengthened by this circumstance, that the country, for many miles around *Tarah*, was formerly called *Magh-Breagh*; and from its having been the place, in which the king resided, it is more than probable, that in those days, when local circumstances gave rise to names, the whole country, under the immediate government of that king, received the name of the royal residence; which, by corruption, from wrong pronunciation, established its present name. This, however, is all conjecture.

By tradition, however, we learn, that Ireland was first peopled by a colony of Scythians, immediately from Spain, who introduced the Phenician language and letters, and divided the kingdom into five provinces,

vinces, all subject, however, to one monarch, who is generally supposed to have resided at Tarah, then called Teamhair, in the province of Meath.

The four subordinate princes, as they became more powerful, created commotions, and invaded each other's territories; to prevent which, the country was divided by Hugony, the then ruling monarch, into twenty-five dynasties, the rulers of which were bound by oath to acknowledge no other superior than one of the king's family.

These precautions, however, seem to have been so very unavailing, that we find not only Hugony himself, but likewise most of his successors, taken off by violent deaths, until the pentarchal government was again restored, which happened about a century before the introduction of Christianity into the kingdom.

Meath, one of these five provinces, at that time included the present counties of Meath, West-Meath, Longford, part of Cavan, Kildare, and the King's county.

Tarah was the principal place of residence of its king, who, in right of Meath, was king of Leinster also: indeed, it is generally thought, that the kings of Leinster were monarchs of Ireland, to whom the other four subordinate princes paid tribute.

At Tarah were held their solemn feasts and assemblies, at stated times, to which place St. Patrick came, to be present at one of those festivals, that was held
with

with more than common splendor every third year, and originally instituted to create an amicable connection between the different and distant inhabitants of the island. This year (433) happening to be that third year, St. Patrick thought it a favourable opportunity to preach Christianity, rightly judging, that whatever impression he made there must have an influence over the whole kingdom, as most of the nobility of Ireland were there assembled. At this meeting he is said to have succeeded, to the utmost extent of his wishes.

St. Luman, nephew to St. Patrick, accompanied him upon this occasion, and was by him created Bishop of Trim. He, about the year 482 built St. Mary's abbey there, and dedicated it to St. Augustin; the monks were Canons Regular. This abbey was afterwards elegantly rebuilt by the Lacies, about the year 1180. That beautiful ruin, now called the yellow steeple, belonged to it. This was the first see in Meath.

About this time, St. Mary's abbey at Duleek was built by a person of the name of Kelly. St. Cianan, who was the first bishop of it, died in the year 489, and was buried in the abbey.

Christianity began now to advance with rapid strides, and we have accounts of there being, within the limits of Meath alone, no less a number than seven bishopricks, viz :—Clonard, Duleek, Kells, Trim, Ardbraccan, Dunshaughlin, and Slane; all of which (except
Kells

Kells and Duleek) were, in the year 1152, united by virtue of a bull from Pope Eugenius 3d, and sent by Cardinal Paparo, who held his synod in Kells. And in a few years after, Kells and Duleek underwent the same fate; and Clonmacnoise was also united in the year 1569, so that in the present see of Meath are united eight bishopricks.

We are not to conclude, that learning, even at this early period, was at so low an ebb, as might be expected among a people just emerging from barbarism; for, in the year 530, there flourished a famous school, or college, at Clonard, under the immediate direction of St. Finian.

This seminary was styled "The fountain of all wisdom and learning;" and St. Finian, from his many virtues, was surnamed "The wise." In it, amongst others famous for learning and piety, were educated St. Kieran, and the two Columbs.

This St. Kieran, about the year 540, built for himself a cell near Kells, at the place now called Castle-Kieran, near which there is a remarkably fine spring, issuing from a rock, which the tradition of the country attributes to a miraculous order of St. Kieran, who blessed it. To this well the more ignorant order of Catholics resort, on the first Sunday in August, and wash in the stream issuing from the fountain, attributing many remarkable cures, in a variety of diseases, to its sanctified influence.

There



Cross at Kells

There is in the church-yard, belonging to this cell, a fine old stone cross, with several hieroglyphical figures on it, but not any legible characters. St. Columb flourished immediately after St. Kieran, and lived at Kells, where about the year 550 he founded and built St. Mary's abbey, little or no traces of which are at present visible, if we except the foundation of an old tower. This abbey is famous for the birth of St. Cuthbert, and was rebuilt about the year 806 by Cellac, abbot of Jona, or Hy.

Columb-kil's house is still standing; it is stone-roofed, and hitherto has withstood the iron hand of time; it is said to be the oldest stone-built house in Ireland. Near the site of the abbey, is one of those old round towers, in high preservation, that we so frequently meet with in Ireland; which, with one at Donoughmore near Navan, is the only one of the kind in Meath.

It is called by the country people, "Clugash Kana-dus," which signifies, "The belfry of Kells. This name has been handed down by tradition, which seems to denote, that they were first intended for bells. In Kells are several stone crosses, but one is particular of beautiful workmanship. This formerly lay prostrate in the street, opposite to the castle, but was raised by the desire, and at the expence of the celebrated Swift, Dean of St. Patrick's. See the plate.

St. Ultan is the first bishop mentioned of Arddracan; he died there in the year 606, although that see did

did not get the name of Ardraccan until the time of his successor Abbot Braccan, after whom it was called.

In the year 838, Turgesius, king of the Danes, failed up the Boyne, and subdued Meath, using the professors of Christianity with the greatest cruelty. To him, in this expedition, is ascribed the formation of those Danish forts, or raths, to be met with in various parts of this county, particularly that remarkable fine one on the south-east side of Tarah-hill, near Mr. Lynch's house. Here he is said to have taken up his head-quarters, whilst subduing Meath. It contains about seven acres, and is now beautifully planted by Sir John Dillon, Bart. and Mr. Lynch, for which they obtained a premium from the Dublin Society, in the year 1791. In 845, Turgesius plundered Clonmacnoise, and many other places, and is said to have fallen in love with the daughter of Melaghlin, king of Meath, who, seeming to accede to his proposals, promised to send his daughter to a certain place, attended by fifteen beautiful maids. Turgesius came to the place appointed, and found, instead of his intended bride, fifteen young men, dressed like women, with arms concealed, which they made use of for the tyrant's destruction.

The fame of this action soon spread abroad, and the Danes were either cut off by stratagem, or compelled by open force to return to their own country. In the year 849, however, they again returned to Ireland
with

with recruited strength, and gained some advantages over the Irish. They, with varied success, held their ground until the year 980, at which time they met with a complete overthrow at Tarah; the Irish, under the command of their king, slaying one thousand private soldiers, together with most of the principal Danish officers.

During the time the Danes held the reins of government in Ireland, which lasted for the space of 350 years, we find no record of any religious foundation in Meath, except that of the abbey of St. Mary at Bective, which was built by Murchard O'Melaghlin, king of Meath, in the year 1146. The friars were of the order of Cistercians. In this abbey was buried the body of Hugh de Lacy, Lord of Meath, who was killed in the year 1188.

The Danes, having been in possession of Ireland for about 350 years, were at last overcome, in the year 1171, by the English, who came over under Richard Strongbow, Earl of Pembroke, being invited by Dermot, son of Murchard, to avenge him of his enemies, who had made inroads upon his territories. Henry II. King of England, granted the Earl liberty to bring what number of followers he could, in order to establish himself in Ireland. He, soon after his arrival, married Dermot's daughter, on whom were settled all her father's possessions for ever.

This

This invitation of a small number of English into Ireland was the first step towards the almost final subjugation, which soon followed; yet we do not find the Irish tamely submitting to the yoke, but, on the contrary, even after they were overcome, resolutely insisting upon, and Henry consenting to, terms, as regulated by an assembly convened for that purpose. In this convention it was agreed, that the Irish should become vassals and tributaries to King Henry, and that he was to protect them in the administration of their own government, according to their own mode. They were to appoint their own magistrates and officers; to pardon and punish all malefactors, within their several districts; and they had the power of making peace and war with each other, without controul.

By these stipulations, both with the natives and the original adventurers, Henry became master of several maritime cities and their dependencies. Strongbow claimed Leinster in right of his wife, and although it was settled on him at his marriage, yet he consented to hold it under a grant from the king, thinking it a more secure tenure. Meath, too, was ceded to Henry, who afterwards granted it to Hugh de Lacy, for the service of fifty knights,* so that Henry had now a considerable

* Henry, by the grace of God, &c. To the archbishops, bishops, &c. greeting. Know that I have given, and granted, and by this my charter confirmed, to Hugh de Lacy, for his

able territory, and a number of subjects in Meath, and had every reason to hope for a speedy encrease of both. Immediately after Hugh de Lacy received the grant of Meath, he subdivided it, and gave to Gilbert Nangle the barony of Morgallion; and to Joicelin, his son, he gave Navan and Ardraccan; to Adam Feipo he gave Skreen; to Misset he gave the barony of Lune; and to one Thomas he gave Kells; beside several other grants, which, from alteration in the names, are not now easily known.

From these he exacted the service, that he was bound in to the king, and enjoyed large possessions himself, for which he was not bound in any service. From these grants arose the names of the divisions of the county, under which it still remains; and, from the possessors having been afterwards created barons, their possessions took the name of baronies.

In the year 1174, De Lacy made Hugh Tyrrell governor of Trim; and, about 1178, he caused the castle of Kells to be built by the English colonists of Meath, as a barrier against the incursions of the Ulster men, who

his service, the land of Meath, with all its appurtenances, by his service of fifty men, to him and his heirs, to have and to hold of me and my heirs, as Murchard Hu Melaghlin held it, or any other before or after him. *Sir J. Ware, chap. 27.*

He gave, likewise, to Hugh de Lacy the country called Meath, to be held by the service of fifty knights, Anno Domini 1172. *Vide Sir J. Ware's Antiquities, chap. 4,*

who that year became exceedingly troublesome. Kells, in those days, was considered the key of Meath.

Slane Castle was about this time besieged, and totally demolished, by Melaghlin M'Loughlin; and Richard Fleming, lord of that place, with many others, was slain in the contest.

Some time after this, De Lacy's power in Meath was so encreased, from his having planted several colonies, and erected many castles therein, that he vainly thought, and, some say, as vainly boasted, that Ireland was more subject to him than to the king of England; which coming to Henry's ears, he was recalled; yet, the very winter following, he was sent back into Ireland as chief justice, which office he held for three years, during which time he built many castles, and, among others, those of Clonard, Killair, and Delvin. Some assert, that Trim castle was built about this time, but, according to * Ware, it was built in the year 1220, of which we shall speak hereafter. He built, in 1182, a cell for canons regular, of the order of St. Augustin, at Duleek, which he afterwards made a cell of Lanthony, near Gloucester, in England.

About this time (1188), as Hugh de Lacy was stooping down to give some directions in the building of a castle at Dermagh, or Durrough, his head was almost severed from his body by the stroke of an ax, made at him by an Irishman employed in the work.

His

* Antiquities.

His body was buried with great solemnity in the abbey of Beftive, but his head was carried to Dublin, and buried in the abbey of Thomas-court. This gave rise to a most ridiculous controversy between the abbies, for the rest of his body, which was at length decided in favour of Thomas-court, by Simon Rochfort, the then bishop of Meath, and Pope's legate in Ireland.

De Lacy left two sons, viz. Walter, Lord of Meath, and Hugh, Earl of Ulster.

In the year 1190, Joicelin Nangle, to whom Hugh de Lacy gave Navan, &c. built there, at the confluence of the Boyne and Blackwater, an abbey, which he dedicated to St. Mary, for the order of Canons regular. The horse-barracks stand at present on the site; no traces of the abbey are now visible.

In the year 1152, Cardinal Paparo, the Pope's legate, held a synod at Kells, in which it was decreed, that, on the death of a village bishop, a rural dean should succeed him, and that their fees should be changed into rural deaneries. This canon Simon Rochfort, bishop of Meath, adopted, and enforced in a synod, held by him in his diocese in the year 1216, changing the village fees of Clonard, Kells, Slane, Skreen, and Dunshaughlin, into rural deaneries.

In the year 1206, this Simon Rochfort, being the first Englishman preferred to the see of Meath, founded, at Newtown, near Trim, a priory of Augustin canons, and dedicated it to St. Peter and St. Paul. He

b

transferred

transferred the episcopal seat from Clonard to this priory, died, and was buried there, in the year 1224. A great part of the walls of this priory are still standing. The east window was almost entire within these few years, and was of exquisite workmanship; indeed the whole architecture was of the purest conception. The prior had a vote in parliament.

Near this, but on the opposite side of the Boyne, stand the ruins of the priory of St. John the Baptist, of the order of Cross-bearers, of which the bishops of Meath were either the founders or benefactors, or, perhaps, both.

In the year 1220,* Meath was almost ruined by private quarrels, between Sir Hugh de Lacy, Earl of Ulster, and William, Earl of Pembroke. "Trim was besieged, and brought to lamentable plight," says Ware, "and, when the rage and fury of their broils were somewhat abated, to prevent the like in future, the same year the castle of Trim was built." This castle is called King John's castle, but from what authority I know not. Tradition also says, that King John held a parliament in it, but this could not have been the case, as it was not erected until about the fifth year of the reign of his successor. Walter de Lacy, about this time, founded a preceptory of Knights Hospitalers, at Kilmainham, near Nobber, and one at Kilmainham-wood; he also built a priory at Kells, and
dedicated

* Appendix, No. 1.

dedicated it to St. John, of the order of Cross-bearers; it stood where the old burial-ground is, at the lower end of St. John's-street, after which priory the street was called.

In 1234 died Walter de Lacy; he left two daughters, one of whom married Jeffry de Geneville, Lord of Meath, and the other married Theobald Verdon.

In 1240, Avice de la Corner, sister to the then bishop of Meath, founded a nunnery at Lismullen, and dedicated it to St. Mary, of the order of St. Augustin. To this nunnery were given, by the bishop, the manors of Dunsink and Ballygoodman.

In 1263, a convent of Dominicans was founded in Trim; in it Jeffry de Geneville, Lord of Meath, took the habit of the order of Predicants, in the year 1308; this is what is now called the black friary, from the monks wearing black hoods; and was situated near Athboy-gate. John de Dumbleton, archdeacon of Meath, wrote, about this time, on logic, and natural history; these works are still extant.

In 1318, William de Londres, Lord of Athboy, founded there a convent of Carmelites; scarce any traces of it remain at present. About this time also, Francis Feipo, Lord of Skreen, founded there (Skreen) a friary, which he dedicated to St. Augustin.

In the year 1406, a parliament was called in Dublin, which, in the year following, was adjourned to Trim. And, in ten years after, another parliament was, in like

manner, called in Dublin, and immediately adjourned to Trim, where it sat for ten days. Both these were held in the black friary, where the tradition of the inhabitants makes the first Irish parliament to have been held. In 1459, a mint was established in the castle of Trim; and there not only brass money, but silver also was, by the king's order, coined. And, in 1467, mention is made of another parliament having been called,

Richard Duke of York, father to Edward IV. whilst in Ireland as Lord Lieutenant, resided some time in Trim, when he is supposed to have built the steeple of the present parish church, which was then, as some think, the friary of the Minorites. The Rev. Doctor Elliot, who has given me this information, grounds his opinion upon the coat of arms, cut in stone, and built into the steeple, which, upon searching the Herald's office, he finds to be those of York and Mortimer. He quartered the Mortimer arms in right of his mother Anne, who was sister to the Earl of March and Mortimer. The body and chancel of the church are certainly of much greater antiquity. In 1479, a military society, called the fraternity of St. George, was instituted for the defence of the counties of Dublin, Kildare, Meath, and Louth, and consisted of thirteen principal men, resident in these counties, who all met in Dublin on St. George's day in each year, and chose from amongst themselves a captain or leader, who should command the rest: each of these thirteen men had

had a certain number under them, all, however, subordinate to the captain so chosen; yet this captain had seldom more than about 200 men to command, badly disciplined, and worse appointed. The first men, chosen for Meath, of this society were, Robert Pref-ton, Viscount Gormanstown; James Fleming, Baron of Slane; Sir John Plunket, Knight; and Alexander Plunket, Esq.

In 1485, 1490, and 1493, parliaments were held in Trim castle, since which time there has not been any held there, that we can find a record of. In 1494, the Military society or fraternity of St. George ceased to exist, not having been found to answer the designed end, or, as some assert, on account of the state of the funds of Ireland, which were then too low to admit of such an expence, though estimated only at five hundred pounds sterling yearly. Two years after which, Trim was consumed by fire, communicated by lightning; shortly after which, died John Payne, Bishop of Meath, a man eminent for his learning, piety, and political knowledge.

In the year 1536, Henry the eighth cast a covetous eye upon the vast possessions of the church in Meath, and having begun in England to convert the property of monasteries to his own use, he was not long in determining to do the like here also.

The abbies of St. Peter and Paul, at Newtown near Trim; Duleek, and Ballybogan, were the first sacrifices

fices to his avarice; two years after which, the statue of the blessed Virgin Mary, kept at Trim in the abbey of the Canons Regular, was burned, and the image of our Saviour on the cross, kept at Ballybogan, underwent the like fate. The gifts of the pilgrims, which were numerous and valuable, and all the precious reliques were taken away by order of the king, who, however, to soften the asperities of religious zeal, and avert the anathemas, which he must otherwise expect for despoiling the sanctuaries of their wealth and ornaments, granted pensions to the abbots and priors, during life, out of the revenues reserved to the crown.

Bective Abbey next suffered the like fate, and Henry, the year following, by an act of parliament confirmed to himself all the abbeys in Ireland. By an act of this parliament, the title of King of Ireland was annexed to the crown of England; the Kings of England having been, before that time, styled only Lords of Ireland; and Meath, having been considered too large for the jurisdiction of one Sheriff, was divided into East and Westmeath.

The town of Navan was about this time burned, and pillaged, by Con O'Neil, in revenge for some depredations committed on his territories by Grey the Lord Deputy; after which it was walled, and the expence defrayed by a cess laid on the counties of Meath and West Meath, for that purpose.*

from

* Appendix, No. 2.

From this period, the work of the reformation went on rapidly, yet it met with several severe shocks in succeeding reigns; nor was it until that of William the Third, of glorious and immortal memory, that it gained complete footing in Ireland.

Having thus far laid before my readers a sketch of the history of the county, down to the Revolution, (since which, the incidents are fresh in the recollection of most people) to avoid prolixity, I shall next proceed to report on its present state.

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STATISTICAL

STATISTICAL SURVEY

OF THE

COUNTY OF MEATH.



CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. 1. *Situation and Extent.*

MEATH is bounded on the north by the counties of Louth, Cavan, and a small part of Monaghan; on the east by part of the county of Dublin, and the sea; on the west by the county of Westmeath (formerly a part of this county); and on the south by the county of Kildare. It is (as I remarked before) near the centre of the east coast of Ireland; and, before its division into two counties in the year 1541, it extended to the centre of the kingdom.

According to Doctor Beaufort's map of Ireland (which was taken from an actual survey of the county,

B.

by

by John Sloane, in the year 1752, and now in the possession of the Grand jury of Meath, although never published), it lies between 53 and 54 degrees, north latitude, and between 6 and 7 degrees, west longitude of Greenwich. It extends from north to south about twenty-nine miles, and from east to west about thirty-five, and includes an area of about 512 square miles, or 327,900 acres.

The very great excellence of its soil made it, at an early period, a desirable object for an invading army, whose aim was colonization, to settle in; and the general flatness of the country, together with the consequent want of fastnesses, rendered it, when once subdued, an acquisition easily retained by the conquerors; as the only art of war then known by the natives was, to lie in wait until occasion offered, and then rush upon and harass the enemy, by taking and destroying his property; so by not having either woods, mountains, or inaccessible hiding places, they were soon reduced to a state of subjection.

This county possesses so many natural advantages from soil and situation, that it may justly be esteemed amongst those most distinguished in the kingdom, although, from its extent, it ranks only as the tenth.

The river Boyne divides the county nearly into two equal parts, running from south-west to north-east. From its entrance into Meath at Clonard, to the sea below Drogheda, it furnishes numberless beautiful views,

views, of a luxuriant and highly cultivated country, abounding with every capability of improvement.

The rise and course of this river, through a flat country, occasions the descents therein gentle and imperceptible; rendering it, at the particular seasons, less subject to drought, and sudden floods; hence affording a greater number of mill-sites, better suited to the purposes of machinery than those on most other rivers of equal extent of course, and supply of water.

The Blackwater, in point of importance, ranks next to the Boyne; it takes its rise in Lough Ramar, in the county of Cavan, and falls into the above-mentioned river at Navan.

This river also boasts of many advantages; but, running a great way through rather an hilly part of the country, it is not so calculated for the purposes of machinery as the Boyne; its supply of water, too, is not so great or regular. The Nanny-water, the Rye-water, and the Moynalty (or Borora river), have each their advantages, which, together with their several tributary streams, intersecting the country in a variety of directions, render Meath a county highly favoured by nature, and peculiarly adapted to the encouragement and extension of its agricultural produce. Its proximity to the metropolis, and the Drogheda market, the best for grain in the kingdom, between which and Navan, the principal and central town of the county, the Boyne navigation affords an easy communication,

together with the rapid improvement in the public roads, from the laudable exertions of the Grand jury, contribute, in no small degree, to render it a country, alike fit for the cultivator, manufacturer, and mechanic.

From the level aspect, which the country presents, it is not considered as affording so many picturesque views as other counties of Ireland, through which the natural advantages of hill and dale are more generally interspersed; yet, even in this point, it cannot be considered as totally deficient, or even uninteresting: whoever is acquainted with the banks of the Boyne, must acknowledge the truth of this assertion; the views of Slane, Beaupark, Farm, Oldbridge, Newtown, Bective, Rathnally, Balinter, Black-castle, Ardsfally, &c. I believe, need not yield in beauty to many in the kingdom. The grand and highly improved mansions of many resident noblemen and gentlemen bespeak its present opulence; whilst the number of castles in ruin denote the pitch of grandeur it enjoyed, even in the earliest periods. A stranger, viewing the towers, abbeys, and monasteries dispersed throughout the county, would be inclined to exclaim, "This was the land of saints indeed!" And from the number of these religious foundations, and the remains of towns or villages near each, arises a fair conclusion, that the population of Meath, in ages far remote, was very considerable indeed!

SECT.

SECT. 2. *Division.*

THE county of Meath, in its present state, consists of three separate and distinct species of divisions, viz. the two grand divisions, the baronies, and the parishes : nor were these several changes effected at one time, but according as local circumstances produced the necessity of them. I shall, as briefly as I can, state the order, in which they took place, and mention the causes, that made each division necessary.

The first division recorded took place at the era of the introduction of Christianity into this county by St. Patrick, who divided it into districts, and placed a bishop to superintend its spiritual interest, and preach the gospel.

As the converts to Christianity became more numerous, these bishops subdivided their sees into parishes, and placed inferior clergy over each, keeping, however, these subservient to their authority : when it was firmly established, the exertions of the clergy became less necessary ; of course an individual could superintend more parishes than heretofore ; such a number of inspectors (the bishops being nothing else) became of course less necessary. The bishopricks were by degrees united, and all were at last merged in the see of Meath, as before mentioned. At a subsequent period,
the

the value of money having decreased, the income of these small livings became insufficient for the support of even the inferior clergy; it was therefore found necessary to unite several of them together, in order to enable the minister of the gospel to move in a sphere of life suited to his character and functions; so that the number is now reduced to 147 parishes, 59 benefices, 44 churches, and 19 glebe-houses. The number of glebe-houses and churches are however likely to increase, through the exertions of the Right Hon. Doctor Thomas Lewis O'Beirne, the present bishop, who, with a laudable zeal for the promotion of religion, insists upon the residence of the clergy of the diocese, requiring of those who have a glebe, without a glebe-house, to build thereon; and where there is no glebe, he endeavours to procure one, with a view towards the present, as well as future accommodation of the clergy of his diocese.

In the present see are now united eight bishopricks; it is the premier suffragan see in Ireland, and the bishop of Meath, for the time being, is always a Privy counsellor.

Each parish and union now supports its own church, keeps it in repair, pays the clerk and all other parish officers, by means of an acreable cess laid on by the parishioners, at a meeting held for that purpose, called a vestry.

Under

Under this division, the county remained until subdued by the English, at which time it was granted by King Henry the 2d, to De Lacy, for the service of fifty men. He, to ease himself of this service, subdivided it into twelve parts, called baronies, because the persons, to whom he made these grants were afterwards created Barons. This division has held good ever since, and each barony now makes and repairs all the roads, supports its own police, and makes and repairs what are called gulleys, where streams are conducted under the high way.

This expence is defrayed by an acreable charge laid on by the Grand jury, twice a year, at the general assizes held in the county. But sums of money expended in erecting, and repairing bridges, amounting to five pounds and upwards, are levied off the county at large.

Civil bills were formerly tried by a Judge of assize, who came twice in each year into the county, and heard and adjudged matters of property in dispute in a summary manner, But, as trade and population increased, litigation increased also to such a height, that it was not in the power of the Judge, (who was generally allowed no more than three days to do the business of the whole county,) to give each cause that time and attention, necessary to come at the truth of the matter in dispute; so that the legislature found it expedient to enact, that all civil bills should be tried

at

at the quarter sessions, for which purpose, (and to prevent the necessity of bringing defendants too great a distance from home,) the county was once more divided into two districts, separated by the Boyne, one called the district of Kells, comprehending the baronies of Slane, Morgallion, Kells, Fowre, Lune, and Navan; and the other called the division of Dunshaughlin, comprehending Duleek, Skreen, Ratoath, Dunboyne, Decee, and Moyfenrath. These I call its grand divisions, and thus divided it now stands.

In each district are two towns, in which the sessions are held alternately, so that, instead of having the opportunity of trying and recovering small debts as formerly but twice, each division, by the present regulation, enjoys that advantage four times in each year.

At these sessions an assistant barrister, appointed by government, presides as chairman, and holds a double office. In all crown business, he is chairman of the sessions, and is nothing more than a magistrate of the county. But in proceedings by civil bill, the magistrate has no jurisdiction, and the barrister acts as Judge of assize. His is a court of law for the plaintiff, but the defendant may take defence, either according to law or equity. From the decision of this assistant barrister, the parties may appeal to the Judge of assize, which appeal must be tried at the very next general assizes held in and for the county, else it comes too late, and the decision there made must be final and conclusive between the parties. In this court

court, actions under twenty pounds may be tried, and under monitions from the bishop's court, actions to any amount are cognizable. In all cases of difficulty, the barrister may call a jury, as the judge of assize in record cases, and pronounce sentence according to their decision.

SECT. 3. *Climate.*

THE air is perceptibly colder in this, than in the more westerly counties of Ireland, although from its flat situation not so subject to rain, as other parts of the kingdom of a less regular surface. It is generally asserted, and I believe with truth, that a vast deal more rain falls in mountainous countries, than on flat tracts, the mountains having the property of attracting and breaking the aqueous vapours afloat in the atmosphere. For which reason, we often find torrents of water, pouring down from the mountains into the vallies, when in those vallies there has been but a very small proportion of rain, and the mountains or high grounds (except in a few instances where they are highly improved) still continue to be the wettest part; and it is certain, that mountainous tracts receive a greater proportion of snow in the winter, than plains of a less elevated situation.

In the counties situated more westerly, altho' of the same degree of flatness as Meath, there falls a much greater proportion of rain; this is caused by their propinquity to the great Atlantic Ocean. But though
they

they are more subject to rain, they are less exposed to those bitter nipping frosts, so destructive in this country in spring. And on the west coast of Ireland, I have been told, they scarcely know what a severe frost is. It becomes then a question, which of the two climates is preferable for the husbandman. I am clearly of opinion the frosty climate is.

We always find the most productive crops after a winter, when there has been but little rain, and severe frosts, and *vice versa*. Even the winter crops prove much better after a frosty, than after a wet or even a mild winter.

The south and southwest winds prevail one third of the year, the north and northeast another third, particularly from the first of March to the middle or latter end of May, in which season we have little else, and all the other points occupy the other third. I have been favoured with an extract from a register of the weather, kept by an ingenious friend of mine, Mr. Henry Edgeworth, of Edgeworth's-town in the county of Longford, for the years 1798, 1799, and 1800, by which it appears, that the average quantity of rain, which fell in a year, amounted there to about forty inches. Allowing therefore two inches, for our more easterly situation, flatness, &c. I think is a fair conclusion, that the annual quantity of rain in this county amounts to thirty-eight inches in height, upon the surface.

The

The farmers in Meath are much more frequently hurt by a continuance of wet weather, than by drought, and we seldom see a year of scarcity in corn immediately following such, though we very often do, after a continuance of rain. They look for rain and wind in May and June, after which, in their opinion, the weather cannot be too dry, or too hot, to fill the corn, as they express themselves. The experience of these two years past, however, seems to contradict this opinion, it being found, that scorching heats tend to shrivel and stunt the grain, more than to add to its size and fullness. The wheat is thought particularly to have suffered this year (1801.) It very often happens, that in the middle of June we have a continuance of dry weather, with a constant parching, easterly wind, very injurious to the late sown barley, and to the bottom land potatoes. The surest method, however, of ascertaining the effects of the climate upon agriculture, will be by mentioning the time of harvesting each particular crop. Bere, in warm situations, is generally the earliest crop, and is begun to be reaped from the twentieth of July to the first week in August; barley soon follows, and often overtakes the bere; wheat, from the fifteenth to the twentieth or thirtieth; and meadows at different periods, according to their quality and state of improvement, from the latter end of June to the latter end of September: oats from the middle of August, to the middle, or perhaps the latter end of September. In
the

the year 1799, every species of grain was at least a fortnight later than the above.

SECT. 4. *Soil and Surface.*

THE soil of Meath is extremely variable, being found in every degree, from the rich deep loam to the lightest sandy soil, but that most generally to be met with is a strong deep clay, upon a substratum of limestone gravel, at a greater or lesser distance from the surface, in different places. The best method of ascertaining, or defining the nature of the soil, is to report the opinions of the different resident gentlemen, who have done me the favour of answering my proposed queries on that head.

In this, as in every other part of the report, however, I must beg to be considered as speaking generally; for in a work of this kind, to speak particularly of the soil of each farm, or each particular soil in a farm, would swell the volume to an enormous size, without answering any desirable end,

BARONY OF SLANE.

THIS barony is one of the most hilly in the county; its soil is a light earth, upon a stiff clay bottom, under which, in many places, a vein of limestone-gravel, of
irregular

irregular depth, is frequently discovered; but where this is not to be found, an impervious stratum of ochreous clay runs to a considerable depth, extremely retentive of water, difficult to be worked in dry, and still more difficult in wet seasons.

When the limestone-gravel is to be met with at any inconsiderable distance from the surface, by using it as a manure the quantity and quality of the winter crops are considerably improved; and where this practice is judiciously managed, a double purpose is answered; first, by striking at the source of the springs, which, in those situations, are the cause of surface-water; and secondly, in altering the texture of the soil, by mixing the gravel so raised in proper quantities with the cold stiff clay, thereby rendering it considerably less impervious to those vegetative qualities, derived from the sun and atmosphere.

In the hilly parts of this barony, viz. between Colton and Kells, and towards Ardee, there is scarcely any, or a very inconsiderable quantity, of limestone-gravel to be met with. The soil here is chiefly what is termed a rye soil, and in many places a strong gravel is found, yet not of that kind, which commonly goes by the name of blue limestone-gravel; its power of correcting the natural bad qualities of the soil, warming, enriching, pulverizing, and encreasing the quantity of the natural earth, is comparatively weak; of course it seldom repays the farmer the expence of raising, putting

putting out, &c. He finds * it more to his advantage to draw lime from Slane, and put it on the ground, at the rate of from eighty to one hundred, perhaps to one hundred and sixty barrels per acre. But as the lime cannot be had on the ground, cheaper than from 1s. 1d. to 1s. 7½d. per barrel, according to the distance it is to be drawn from, this kind of improvement is out of the reach of most of the farmers of this district. However, if many such spirited landlords as Robert Waller, Esq. (who pays half the expence of any liming on his properties at Rathbran, Hopkin's-town,† &c.) resided in this barony, we should soon see the face of this district changed from an almost barren heath to fruitful fields. In its present state, we must certainly consider this middle part of Slane barony, a few improved

* Where the clay is impregnated with gravel, it becomes a very good manure; its strength is generally proportionate to the quantity of calcareous earth contained therein; the greater or lesser quantity must be put out of course.

The lower half of this barony is of a much better quality than the upper, and more appropriate to the purposes of tillage and feeding; the lands are richer, deeper, and abound with marle in every corner; the surface is varied with a number of gentle swells, which, if generally planted, would add superior beauty where such capability exists.

† In Hopkin's-town there is a fine slate quarry, although totally neglected; a good subject for a speculative company, and, in every probability, a profitable one for the exercise of a large capital.

proved farms excepted, as by far the worst and most unprofitable part of the county.

Wherever the impervious clay approaches near the surface, which in some places it does within four inches, we see the bluish hard rush flourishing in great luxuriance; and the substratum being impervious to water, it is subject to be poached by cattle in the winter season, and of a dry summer it opens into chinks to a considerable depth; so that either in summer or winter it is worked with difficulty, and, except in a dropping summer, or a dry winter, yields but poorly.

Oats are chiefly cultivated on this sort of ground, throughout the barony; a few crops of wheat and bere, but scarcely any barley, are sown. I think about half the district is under tillage, and half under grazing.

Fuel here is very scarce, there being very little bog in the vicinity, so that turf is brought at some considerable distance, and coal from Drogheda or Slane.

In some grounds in the upper half barony, between the different strata, and at the edges of streams, where the land has been washed away, and shews as it were a section of the earth, coal-smut is found in abundance; and though there is every assurance, from the experiments hitherto made, by order of the company formed by Lord Cunningham, that coal can be procured in
the

the barony, yet the circumstances of the mine are such, as to damp that laudable spirit of exertion, from an idea that the profits would not be equivalent to the expence. In this barony is a fine quarry of vitrescent stone, which makes excellent flagging, of a more porous nature than Ardracchan, and not so subject to retain damp on its surface; at the same time, Ardracchan exceeds it in the beauty of its colour, and in the polish it is capable of receiving.

By the county docket, which is taken from the Down Survey, it contains fourteen thousand six hundred and forty-seven acres. This survey only included the *then* arable and pasture lands of the county; of course, all grounds reclaimed since that time are omitted, which amount to a considerable number of acres; yet by the Down Survey all county and parish cesses are rated; the consequence is, that, when a gentleman lets part of his ground to under tenants, he covenants with them to pay county and church cess for every acre they hold, by which means all saving comes into his pocket; and it often happens, that the landlord is totally exempt from all cess, by the quantity of reclaimed land which, from time to time, has been added to his property.

This *saving*, as it is called, is always greatest on farms bordering on bogs, marshes, or mountains, and vice versa.

Slane contains, by the county docket, 14,647 acres.

BARONIES

BARONIES OF KELLS AND MORGALLION.

NEXT to Slane, we are to consider the barony of Morgallion, which, from its affinity, both in nature and situation, to Kells, I will, to avoid repetition, join together. The mode of culture in those two baronies is nearly the same, and their surface alike beautifully diversified by gentle swells, few of which, however, are of sufficient height to be termed a hill, and none of them deserves the appellation of mountain, Scribogue and Lloyd excepted; even these, where cultivated, are fruitful to their summits. That part of Lloyd, at present not enclosed, is wet and unproductive in the extreme; it is likely, however, to be soon reclaimed.

The barony of Morgallion has the advantage in point of soil; but Kells, being so much better improved, at present equals, if it does not exceed it.

The soil of this district may be termed a deep rich loam, extremely productive, and equally appropriate to the purposes of the farmer and grazier. Although in some places we find the soil extremely light, particularly about Moynalty in Kells barony, yet in others, and that even on the tops of the hills, I have been assured as good earth has been found, at the depth of four feet, as on the surface, except what must necessarily arise from tillage, exposure to the sun, and frosts,

&c.; but if tilled, and turned up, it would, in the course of a year or two, be as productive as any part whatsoever. The consequence is, that farms in this district never can, with proper management, be exhausted, because when the farmer finds his fields beginning to be unproductive, he has only to turn up, by ploughing somewhat deeper, a proportion of earth heretofore lying dormant. When this fails, he sows some clover and grass seeds, which, in the course of three or four years, bring back his land to its pristine strength, and amply repay in the interim, by the feeding of sheep, &c.* Marle seems to have been the manure most in use,

* At Newtown, a part of this district, the late Sir John Meredyth put two ploughs to work (one drawn by four, and the other by six bullocks), following each the other in the same track, by which the ground was completely turned upside down, to the depth of from twenty to twenty-four inches: the under part, to all appearance, was as good as the surface, yet that field has not recovered its original quality, though it is now perhaps twenty years since it was so treated. But if the same depth and change had been effected by little and little, and worked from the surface by degrees, suppose from one to two inches deeper each year, which still keeps the ground fresh and fresh, and the soil, by being thus mixed together, retains its vegetative qualities, it might not have had that effect.

I some time since laid out a small piece of ground for a nursery, which I trenched two good spit deep, and turned up from the bottom as good earth, in appearance, as that on the surface; yet seedlings, planted in this ground so turned, all died; whilst the stronger plants, that were put down a little deeper,

use, but this in many places is now exhausted; and that made use of mostly at present, is yard dung, ditch scourings, lime, where it can conveniently be had, and limestone-gravel.

Barley is here grown in as great quantity, and of as fine a quality, as in any other district of the county, and consequently all other grain in proportion; it being a received opinion, that grounds, which give good crops of barley, will give any other crops, proportionably good; and the greatest recommendation a farm can have is, that it is a good barley soil.

There are two very extensive bogs, and some of an inferior class, dispersed through this district, which render fuel, that greatest comfort of the poor, an article comparatively cheap. Contiguous to one of these bogs, viz. at Knock, in Morgallion barony, is found some plastic argillaceous clay, containing an admixture of some ferruginous particles; of this a manufactory of the coarser kind of pottery, such as tiles, garden-pots, and other utensils in use among the lower order, has been carried on for many years, but rather on a limited scale.

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deeper, so as to reach the good earth, flourished extremely well. The year following I planted more seedlings, which succeeded tolerably, although the ground was not trenched back; but this I attribute to the influence of the sun, frost, &c. upon it, which it had not received for the first year: the seedlings planted in it the third year have flourished exceedingly.

Not far distant from this manufactory is a mineral spring, to which, a few years since, numbers resorted for the benefit of its water; but of late it has gone out of fashion, and is now frequented only by a few: it is a chalybeate water, containing, with the iron kept in suspension by carbonic acid gas, some calcareous particles, and has been successfully used in diseases arising from debility.

There are not any mines, nor any likelihood of such, that I can be informed of, as yet discovered in this district.

Almost two thirds of it are occupied by the grazier, or in meadow.

The marshes of Rossmin and Emla, on the Moynalty river, feed an immense number of horses in the summer season. These marshes might be easily drained, but the proprietors think that they are more profitable as they now stand; but however great the profits are, from the feeding of horses in its present state, it is my opinion that, if the bridge of Fian's-town was taken down, and the river sunk from that point to Rossmin-bridge, which, as well as the former, should be rebuilt, and the arches made wider and deeper, the floods would seldom increase to such a degree, as to overflow the banks of the river, which at present is the case: and in order to obviate that general hardness, which pervades marshy grounds in dry seasons, rendering them less productive in grass, I would have a
sluice-gate

sluice-gate under each arch of Rossmin-bridge, which in very dry weather might be shut down, so as to irrigate the whole marshy extent at pleasure. From this plan I am convinced that, in the space of a few years, by the incredible increase of a better sort of grass, arising from draining in winter, and irrigating in summer, the expence of such a work would be repaid ten-fold.

	<i>Acres.</i>
Upper Kells contains, by the county docket,	9,089
Lower ditto, - - - - -	6,314
Morgallion, - - - - -	15,845
	<hr/>
	31,148

BARONY OF FOWRE.

In the half barony of Fowre is to be found the greatest variety of soil, as well as surface, of any district in the county. In the northern part of it are the Loughcrew hills, the only part of the county that can, in any degree, deserve the appellation of mountainous; even these feed an immense number of sheep, and in some parts they are cultivated to the very summit, yet others are very rocky, where ferns and every mountainous product are met with in abundance.

The soil on the hills, in general, is a dry gravelly clay, from twelve to eighteen inches deep; and in the vallies

vallies between those hills is found a deep rich loam. These hills are remarkable for fattening sheep, and the vallies as noted for fattening black cattle. The lands of Diarmid, I have been assured by some of the persons who hold them, are so very rich, that the corn grown on them, for the first ten or twelve crops, is quite useless; that it runs to straw, and then lodges; and one gentleman declared to me, that he was almost broke by persevering in his endeavours to make it yield good corn; perhaps if he had rolled it well, or sown it under with the plough, or in drills with the machine, he would have had better success.

It is by far more suited to grazing than to tillage, and in grazing it is chiefly employed. The happy interjacency of upland and bottom, and the due dispersion of springs, add materially to its other natural advantages in favour of the grazier. A part of this barony extends to Loughsheelin, in which there is an island belonging to it, containing about fifty acres. The grounds about Oldcastle are remarkable for giving nice barley crops; and the Lougherew mountains, where well tilled, produce crops, that would not disgrace the baronies of Kells, Morgallion, or Skreen. Since Mr. Henry has erected a flour-mill in this district, the farmers pay more attention to the growth of wheat than formerly; a ready market produces a quick return for the husbandman's toil; competency is the certain

certain stimulus to agricultural exertion, creating a necessity for manual labour, on which, as well as manufactures, depend the permanent support and comfort of the hardier part of our community.

Demifore, by the docket, contains 21,261 acres.

BARONY OF SKREEN.

The soil of Skreen is, generally speaking, a deep rich earth, upon a fine limestone gravel, and in some parts over marle, that inexhaustible mine of wealth to the farmer, which until of late years remained almost totally neglected. The surface is uneven, and may be termed rather hilly. The soil is not the best for barley, yet it throws up an uncommon quantity of fine rich feeding grass.

Those parts, that are tilled, give excellent crops of oats, bere, and in some places fine red wheat, but, in general, it is more fit for the purposes of grazing than tillage, and is considered for so much as the best feeding ground in the county. Though the lands of Damer, and its vicinity, are considered as capable of fattening quicker, yet taking the whole of the two baronies into our consideration, that of Skreen seems to take precedence of any other in the county; for instance, on the lands of Skreen, Mr. Morris has frequently on two fields, containing forty-eight acres, fed
fifty

fifty bullocks of eight cwt., and in the year 1800, which was an extreme dry year, and of course inimical to upland grafs, he fatted seventy-six cows and two bulls on seventy-seven acres, at which time it was only about seven years laid down; and so in the same proportion, with some hundreds of acres, when the lands were in high feeding condition, before they were broken up a few years since. Whilst under tillage, he has taken from fifteen to seventeen crops successively, without an intermediate fallow, or the use of manure of any kind, though let in corn acres, and therefore badly tilled: (the land being at that time nearly out of lease.) This fertility may also be applied to several farms in the barony, viz: Staffords-town, Gerrardstown, Brownstown, Clownstown, Fol-lestown, Painstown; in short, to almost all that part, reaching from Gerrardstown to the Boyne: yet in another direction, from Tarah Hill to the Boyne, and so on towards Beftive bridge, there is a vein of poor hungry ground, chiefly a kind of foxy gravel, generally termed a rye foil, upon a cold clay bottom, a good deal retentive of water, but which when well drained and tilled, produces good crops of wheat, some tolerable oats and bere, but scarcely any barley.

Not quite two thirds of this barony are occupied in grazing and meadow.

In this barony, on part of the lands of Walterstown, the estate of Nathaniel Preston of Swainstown, Esq. there

there are miners working a copper ore, which, from some specimens, is very rich in metallic particles. The ore has an admixture of quartz, consisting of hexagonal prisms, many of which are nearly transparent, others opaque, and some of a brownish yellow.

Some specimens appear of a much more calcined nature than others, but from Doctor Percival's assay, should a sufficient quantity of the ore be procured, it will be extremely lucrative, as it is of a very rich nature.*

Sir John Dillon, Bart. Charles Dillon, Esq. his son, and Nathaniel Preston, Esq. have formed, for the purpose of exploring this mine, an experimental company; and have, with a degree of persevering spirit, highly commendable in men of estated property, expended a sum of money in the undertaking, from which may arise consequences of national import.

This vein of copper ore runs from Walterstown in a north-east direction towards the Boyne, and has been worked with various success upon the estate of Sir Marcus Somerville, Bart. and on that of Gustavus Lambart, Esq. in Duleek barony, by miners, who, it is supposed, did not do justice to their employers; and hence, though the quality of the ore was found equal to any in Great Britain, and superior to many, yet from some fatality, ever attendant on the generality of works of this nature in Ireland, it has lain neglected, when

* Appendix, No. 7.

when perhaps immense treasures might be derived therefrom.*

Skreen contains by the docket 10,817 acres.

BARONY OF NAVAN.

THE soil of Navan barony is a rich earth, of various depths, on a substratum of limestone gravel, limestone rock, and in some places ferruginous clay, and gravel. Where this last is the case, it is very retentive of water on the surface, and attended with difficulty in draining. The lands about Boyerstown, and in a vein extending from that to Trim, bounded by the Boyne, are chiefly composed of a cold clay; and though the limestone gravel is found in almost every part of it, yet the farmers, chiefly from inability, do not put it on, in any sufficient quantity, so as to effect an entire change: when raised and exposed to the weather for a year* before it is put out, or spread, (which

* Appendix, No. 8.

NOTE BY DR. GIBNEY.

* By this practice it becomes possessed of a greater portion of the carbonaceous principle, and hence more friendly to vegetation. Grounds intended for wheat require this quality in abundance, and if within the soil those ingredients exist, capable of renovating the earth by exposure for a time to the atmosphere, the labour of the cultivator is generally crowned with an abundant crop.

The

(which is generally considered the best practice,) great crops of wheat are produced: but the oats of this part of the barony, even though grown after dunged potatoes, are generally light and short, and not of that kind, which sells best at market, particularly from those lands about Irishtown, Churchtown, Dunlough, and so on towards Trim. The remainder of the barony

The power, which pure lime has of attracting aerial acid from the atmosphere, is well known to chemists: this aerial acid is so wonderful an agent in the animal and vegetable kingdoms, that it occasions the most various and modified appearances in each, rendering by its combination caustic substances effete, uniting with water, and bestowing upon it the power of keeping in solution earthy and metallic particles, with which it has no natural affinity, giving vigour to the digestive organs in the animal and vegetable creation, while its operation on the respiratory organs of each is deleterious in the highest degree; add to all this, its powerful agency in the process of fermentation, and in affording to wine, malt liquors, and most mineral waters, that bristiness of flavour, which renders them such salutary and grateful beverages.

The union of this air, by the agency of those ingredients naturally inherent in the soil, or artificially added thereto, through the medium of animal excrement, manure, &c. &c. &c. is of such importance towards the improvement of the soil, that every means should be used for that purpose, and the more highly saturated with it are substances, which are known to attract it from the atmosphere, the better effect will they have on the soil; hence calcareous gravel, which lay buried under the earth, though possessing the power of attracting it yet until brought in contact with the atmosphere, could not serve the grand purpose in nature, which it is found to do, after imbibing a fluid so subtle and so useful in its effects.

rony may be considered a deep rich earth, equally appropriate to the purposes of grazing or tillage.

A few years since, the grazier occupied somewhat more than two thirds of the barony, but the late high price of corn, the convenience of Navan market, and the easy communication thence to Drogheda by means of the Boyne navigation, have proved strong inducements to the occupiers to break up their grounds, and it appears at present, that not more than one half of the barony is employed in grazing and meadow. It in general abounds with hedgerows, and is beautified with some extensive plantations, which to a spectator, placed on an eminence, presents the appearance of a thick wood, from the effect produced by the perspective connection of the top of one hedgerow with the bottom of the other.

Timber trees thrive remarkably well throughout the barony, whenever the necessary care is taken to protect them while they are young.

At Ardraccon, on the demesne of the bishop, is an excellent limestone quarry, of a fine white grain, capable of being worked into any form for building. The beds lie horizontally, and are of every thickness, from four inches to two feet: columns have been raised and worked in it, from fifteen to eighteen inches diameter, and nine or ten feet long. Of this stone, the Hon. Dr. Henry Maxwell, late bishop of Meath, built a beautiful palace at Ardraccon; a monument of
taste

taste and liberality, whether considered in respect to the elegant simplicity of the design, or accuracy of the execution. This stone is susceptible of a fine polish, and makes very neat chimney pieces, of a greyish colour when polished, although from the chisel it is white. This rock extends in a ridge from Ardbraccan to the Black-water, but the quarries opened in different parts of the ridge, though nearly equal in colour, have not turned out blocks of equal scantling to that on the hill. Tombstones, and door-cases of this stone, are sent to very great distances by land carriage; but when the projected line of navigation, from the north of Ireland to Dublin, through Kells, Navan, &c. is executed, which is to run within a very few perches of this quarry, the stone, from the facility and cheapness of carriage, will become of more general use. The quarrying of it is attended with considerable expence, from the great flow of water constantly issuing from springs; yet stone has been taken from it since the beginning of the 16th century, as may be concluded from the quoins, door and window cases, &c. of the castles in the neighbourhood, built about that period, being principally of this stone.

	<i>Acres.</i>
Upper Navan, by the docket, contains	8,689
Lower ditto, - - - - -	10,632
	<hr/>
	19,321

BARONY

BARONY OF LUNE.

THAT part of the barony of Lune, lying about Ash-boy, is, generally speaking, a very rich mould, upon a gravelly bottom, not however of a calcareous nature, but of a mixed kind, consisting of particles of granite, chert, and some of a mixed proportion of limestone gravel in small quantities, with other varieties, which are not very retentive of surface water, yet sufficiently so to hold the moisture to the root of the plant. It gives very nice, although not very abundant crops of barley, and along the banks of the river there is excellent grass ground, and a rich vein of heavy meadow, which has been very much improved in quality within these few years past, by the bed of the river having been sunk, by subscription of the persons, through whose property it runs.

These grounds when not meadowed, prove extremely well in feeding, and seem at a little distance, from the very great flatness, and a number of extensive hedgerows, to be tolerably well wooded.

That part of the barony towards Kildalky, and from thence to the Boyne, is chiefly a poor, hungry, cold, clay ground, rather flat, very retentive of surface water, and in some places rushy, and (as the saying is) sour, for want of being properly drained. On these grounds,

grounds, limestone gravel is found in abundance, so that the draining and fertilizing this barren soil is not that Herculean labour generally apprehended.

Where this gravel is thrown up, and mixed with the surface, excellent crops of winter corn are produced. Bere is seldom sown, and little or no barley, and what is grown is chiefly after potatoes.

In the northern part of the barony, from Athboy towards Navan and Kells, there are some of as fine feeding grounds, (viz. Drewstown, Girly, Fordstown, Chamberlainstown, &c. &c.) as any in the county. These chiefly consist of a deep rich loam, upon a gravelly bottom; Girly was remarkably well wooded, until the trees were cut down, within these few years, by Sir Benjamin Chapman, Bart.; but if the young shoots, now springing up, are properly protected, they will shortly present a beautiful appearance, and prove a considerable ornament to that part of the country, now so destitute of wood.

This part of Lune has a good deal of marle in the bottoms, of which great and profitable use has been made for some time past.

Somewhat more than half the barony is grazed.

Lune, by the docket, contains 15,019 acres.

BARONIES OF DEECE AND MOYFENRATH.

THE baronies of Deece and Moyfenrath occupy the south and west parts of the county, and extend from its boundaries on the Kildare side, to the river Boyne, which separates them from Lune and Navan. A great part of this district may be termed a light, hungry, gravelly soil, upon a gravelly bottom, of a mixed kind, not retentive of the atmospherical moisture, even in such a degree as to hold sufficient nourishment to the root of the plant; such are the Galtrim and Arif-town hills, and a vein extending from that towards Trim. In a very wet season, such as the year 1799, this kind of ground does extremely well, but in such years as 1800, and 1801, for want of depth of soil and a sufficient degree of retentiveness, its vegetative juices are exhaled by the sun, and the crops upon its surface are scorched before they arrive at maturity; of course, they become shrivelled and unproductive.

There is no kind of ground in the county, (to use the farmer's phrase) that stands hacking worse than these: they have no renovating resources within themselves, and the occupant is seldom possessed of sufficient capital to enable him to bring extraneous manures upon his farm; perhaps if he even did, the expence would so far exceed his profit, as to leave no inclination in him

him to try the like experiment in future; and to attempt to refresh his soil, as in other districts, by an additional depth of ploughing, would be but to add more unprofitable gravel to the already too gravelly surface. Some of these grounds, when long laid down, throw up a quantity of fine sheep-grass, particularly in winter, and at those seasons of the year when other farms are totally devoid of any such spring of grass. This arises from the accession of moisture in the wet season of the year, added to a degree of heat existing in the substratum, both conjointly imparting to the vegetable fibre that principle, which the scorching heat of the summer sun denied it the power of doing sooner.

When those grounds are permitted to retain a good coat of grass early in the season, that cloathing shields them, in some degree, from the sun's rays, and except the heat becomes intense, or on those parts where the surface is exceedingly light, they hold their verdure tolerably well; even under tillage, provided the corn is early sown, and the land kept in good heart, it produces the like effect in a certain degree.

From the incohesive quality of the substrata of these soils, the substance of the surface is often washed through it, and the vegetables thus deprived of nourishment perish through a want of a substance to retain that pabulum, on which, in a great degree, their existence depended. In order therefore to render

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those

those grounds at all productive, so as to afford a profit to the farmer, green crops, such as vetches, clover, turnips, rape, and all those tap-rooted vegetables, that have the property of sending their roots deep in the soil, should be cultivated, which by their umbrageous effects retain moisture; by this means, gradually increasing the quantity of the soil, and considerably improving its nature, within a few inches of the surface, where its effects are most required.

The S. W. part of this district abounds with a poor stiff clay, becoming richer as you proceed eastward. Clonmullen hill, and that part of the country lying between it and the county of Kildare, consist of a fine deep soil, remarkable for tillage, and producing a number of good crops without manure. Eastward of Clonmullen hill, towards Parsonstown, lies that part of this district called the Fossagh*, and near it (though generally considered as a part of it) is an extensive flat, formerly covered with water, or at least it was at this time such a swamp, as precluded the possibility of grazing cattle upon it, and is not included in the county docket; this tract, however, by being intersected with drains, having its clay surface pierced through, its substratum, which was limestone gravel, thrown up and mixed with that clay surface, has become one of the best wheat veins in the county, and wherever any part of it has been laid down and drained, it has become

* A grassy, coarse, wet kind of ground.

become most excellent feeding ground, so that from being a totally unproductive marsh, it has, by the proper application of its own natural resources, become as remarkable for its present fertility, as it formerly was for its sterility.

This fact leads me to reflect, how very necessary it is for every person, who is about to improve a farm, carefully to examine its substrata, and all its capabilities, before he begins his operations. We generally find, that nature, in the distribution of her gifts to man, has placed, in almost every situation, that manure most appropriate to the circumjacent grounds; but as a stimulus to his industry, she has placed it out of his view, though not out of his reach. On or near that soil, where lime is the best manure, limestone is generally found, though perhaps at some distance from the surface; and upon stiff, cold, clay grounds, subject from too great a degree of tenacity to surface water, we almost invariably find limestone gravel, which is the best possible manure for that kind of ground; but lest its propinquity to the place, where it is so materially to benefit the soil, should not sufficiently stimulate the farmer to exertion, it is often placed at such a distance from the surface, and other obstacles thrown in the way of its attainment, (in the quantity requisite, and the circumstance of its frequently having an intermediate stratum of tenacious clay interposed) that the whole of the farmer's energies are

called forth in doing his ground that justice, which it requires, and often from a defect of this energy, his grounds are suffered to remain in want of that assistance, which nature intended them to receive; they thus continue sterile and unproductive, and are said to be of an unprofitable kind, when in reality the fault lies in the farmer. The influence arising from a defect of exertion in man, over his mental and corporeal faculties, has been justly compared to the effects of frost upon the vegetable creation; it chills and enervates his intellect, and in a manner congeals those powers, with which he is endued. The want of hope blasts the fair prospect of success, serving as a bar to the spirit of overcoming difficulties, which energy of action alone can surmount. Every man should therefore, as far as in him lies, endeavour to act up to the full scope of that reason bestowed upon him by providence. Those powers are, in almost every man, greater than they appear, and may, by diligent cultivation, be exalted to a degree beyond what even their possessors presume to believe. There is scarcely any man, who has not found himself competent, at the instigation of necessity, to put in execution that, which, until urged by necessity, he thought himself incapable of performing. How many individuals of very moderate pretensions in the learned professions have, by incessant application, so improved their abilities, that they have outstripped their

their cotemporaries, though possessing more shining talents; thus by perseverance becoming highly useful members of that class of society, in which they were situated, and not continuing inert drones of the general community?

But to return—how presumptuous would an individual appear to those acquainted with the neglected and unprofitable state of the Fossagh some years past, who should at that time assert the possibility there was of carrying into effect an undertaking, the happy effects of which are now so evident, and that luxuriant crops of wheat should in the present time occupy those tracts, which were then impassable to the foot of passengers.

In this flat the Clonee river takes its rise; yet, as it does not become of any importance until it leaves the county, I have not taken it into the general account of the rivers. That part of the district, reaching along the boundary of Kildare, is of a superior quality, being principally composed of a deep rich loam, upon limestone gravel, and limestone rock; and in general is employed in grazing, although in some parts there is a good deal of tillage. The chief produce of that part is oats, some bere, and a small quantity of barley; although the principal part of the barley ground lies from Derpatrick to Aristown and Minalvy, and so on towards Summer-hill, and thence to Rahinstown by
Augher,

Augher,* where there is some excellent feeding ground, capable of fattening the largest cattle, although sheep seem to be its most natural stock.

The surface of this part of the district is beautifully diversified by gentle risings, none of them of sufficient height to impede the progress of tillage. There is some remarkable fine ground about Ginnetts, from whence to Rahinstown it is extremely well planted. I think about two-thirds of this district are employed in grazing and meadow. I have been told the use of clover is not known in this district, from an idea that it will not grow, but this proceeds from the state of filth, in which the ground is, where the seed is sown, more than from any incapability in the soil to produce it.

	<i>Acres.</i>
Upper Deece, by the docket, contains	- 10,980
Lower ditto, - - - -	- 10,881
Upper Moyfenrath, - - -	- 11,038
Lower ditto, - - - -	- 11,120
	<hr/>
	44,019

BARONIES

* For a particular account of this parish, vide Appendix, No. 6.

BARONIES OF RATOATH AND DUNBOYNE.

THE baronies of Ratoath and Dunboyne bear a strong resemblance to each other, not only in respect to the flat, uninteresting, and unvaried appearance, which they present, but likewise in regard to the general nature of their soil and substrata.

They are chiefly composed of a stiff soil, upon a substratum of tenacious clay, or what the farmers term a *laclea*, which is of greater or lesser depth in different places, under which, however, is invariably found the strong blue limestone gravel, to the copious use of which alone they may attribute the teeming crops of fine wheat, of which they boast.

Every attempt to drain this kind of ground proves ineffectual, until this stratum of yellow clay is entirely cut through, by carrying the drain fairly into the gravel, when it is as easily freed from surface water as any other soil. From the nature of the soil, it might be imagined that this district would be very subject to be poached in winter, and to open into chinks in summer, the usual consequence of grounds suffering from surface water; but this is not in any degree so much the case as might be presumed, which I attribute to the constant use of that most excellent manure, found in every part of the district. Where judgment has been
used

used in raising this gravel, the nature of the soil is in every respect changed ; first by draining, and next by the advantageous effects of the gravel, which so entirely corrects the natural bad qualities of the soil, that, where once the bluish hard rush flourished, a beautiful sheet of white clover succeeds, overspreading the surface with the most charming luxuriance. Where this land is not sufficiently drained and manured, it soon reverts, when laid down, to its pristine state of wretchedness, but, where it has, the good effects are soon visible, and continue so as long as the drains are kept from choking.

This district is more appropriate to the growth of wheat, than of oats or bere; little or no barley is grown, and bere is generally sown in succession to a crop of potatoes, from an opinion that it is the best fallow for bere. The farmers of this district till the soil much better than those occupying land north of the Boyne; but this excellence arises more from the conviction of its necessity, than from any superior degree of skill, judgment, industry, or capital in the farmer. He knows from experience, that, wherever the earth will not yield its substance without being assisted, assistance must be sought, either from manure or superior tillage.

Lime in this district is seldom used, and that more from the difficulty of procuring fuel, than from any dearth of limestone. The abundance of gravel, every
where

where met with on the premises, answers the same purpose, if not as cheaply, yet certainly much more effectually. Clover and trefoil succeed likewise extremely well all over this district, and feeding it off with sheep is generally the method taken, to rest or renovate the grounds, when worn out by tillage. About two-thirds of it is employed in tillage and meadow; the hay and straw, not consumed on the farm, is chiefly disposed of in Dublin market, although many instances occur, of the farmer (when his fuel is out, without its being convenient to send for more) permitting his servants to burn quantities of straw in baking bread, and all the purposes of housewifery. This practice prevails in many parts of the county, and is so destructive and improper, that no endeavour should be spared to put a stop to it.

Coal is the fuel generally used in this district, which, though brought from Dublin, does not come as high to the consumer as might be expected from the distance of land carriage, as it is conveyed home, in most instances, on the cars, that have brought out either corn, hay, or straw to Dublin. Vetches are grown by some, yet not in that quantity, that might be expected from the nature of the soil, which becomes lighter as you proceed eastward. I should not omit mentioning here the discovery some years since, in this district, of a vein of potter's clay, of a superior quality to most others in the kingdom. This clay is found on the
estate

estate of the Hon. and Rev. Edward Taylor, at Boncetown, near Dunshaughlin, principally ochreous; but as it has been examined already by persons appointed by the Dublin Society for that purpose, I shall not dwell longer on the subject; than merely to mention, that it is thought equal, if not superior to most of the potter's clay found in Staffordshire; this clay is situated about fifteen miles from the city of Dublin, from which fuel can be had on terms, that might render the establishment of a manufactory here of great national import, not only in respect to the wealth accruing to the nation at large from materials, which at present lie dormant and useless, but likewise in giving support and employment to a great number of persons of all ages. There is very little planting in this district, and even thorn fences are to be seen but in few places, though not from any incapacity in the soil to produce them, (for I don't see the common thorn thrive any where so well as in limestone gravel grounds) but from their being unprotected, in their infancy, from the ravages of cattle, or the more destructive depredations of the poor man's billhook, which must ever be the case, (without great attention in the proprietor) where fuel is so scarce an article as it is in this district.

In order to supply the deficiency of fuel, which exists in the neighbourhood of Lismullen in Skreen barony, and with a view towards protecting plantations of value, Sir John Dillon has all the backs of his
ditches

ditches sown with French furze seed, and directs the same practice to be pursued by all his tenantry; the good effects from this custom are manifold, as the cattle are precluded from nipping the young hawthorn, the French furze being interposed, and there is a constant succession of excellent fuel for the tenantry.

Acres.

Ratoath, by the docket, contains	-	-	8,460
Dunboyne, - - - - -	-	-	8,880
			<hr/>
			17,340

BARONY OF DULEEK.

THE barony of Duleek bears a stronger resemblance to Slane barony, than to any other in the county, both with respect to its soil and general surface, although its soil is much better, and its surface somewhat more regular.

That part of it, which stretches along the sea shore, is a very light soil, resembling sea sand, with little or no vegetative powers, and capable only of supplying rabbits with food, to which purpose it is solely applied by Mr. Brabazon.

It becomes heavier as you proceed inland, and about the great road leading from Dublin to the north of Ireland it is composed of a light clay upon a yellow clay, (mixed with flatter stone) and a rye soil. Good tillage,

fillage, however, produces excellent crops here, some of them far exceeding those grown on farms naturally superior. About Baymore, there is some excellent ground, from which, to Duleek and Athcar, the soil is deep, rich, and warm, equally appropriate to tilling and grazing. About Bellewstown, and from that towards Garristown, is a cold argillaceous clay, retentive of surface water, generally esteemed a good rye soil, yet good crops of red wheat are grown here. Along the banks of the Nanny water, are some excellent meadow and feeding grounds, many of them capable of irrigation with very little expence, (when the subsequent beneficial effects arising from such a practice are taken into account) both from the bed of the river, and from streams falling into it from the surrounding eminences. The rye soil continues with little variation to nearly opposite Slane, whence, towards Navan, it gradually decreases, until it joins Skreen barony, when it totally disappears.

Along the Boyne edge, almost the whole way, the ground is much colder than when you proceed into the country a little. Limestone rock, and limestone gravel, is to be met with through the whole of the barony; wherever lime has been used on the rye soil, the most favourable consequences take place. About Dollardstown, Painstown, and Ardmulcan, there is a kind of marly black gravel, differing little in effect (though materially in appearance) from the blue limestone

Stone gravel, found in almost every part of the county. The black gravel is the weakest; of course, it requires a much greater proportion of it to effect a change than of the other. Immediately about the town of Drogheda, and within the reach of its manure, the grounds are highly cultivated; good red wheat is produced in abundance, and large quantities of rye, both for soiling and for seed; a good deal of oats, and some barley. This is the only district of the county, in which beans and white peas may be said to be grown in any quantity; both winter and spring vetches are here principally cultivated; the former, for soiling, is frequently mixed with rye, and is lately come into practice, but not yet generally adopted. The latter has long been in use as a substitute for hay, which is rather a scarce article in this district. Mr. Tandy has long been in the habit of growing cabbages, turnips, &c. to some extent, with which he supplied the market of Drogheda. Mr. Harman, and some others, have of late gotten into the same course. From the propinquity of this barony to the Drogheda market, the farmers are upon a better footing than in any other district of the county; of consequence, nearly one half of it is under tillage.

In this district, the extremity of that vein of copper ore, mentioned in Skreen barony, has been worked to some extent. For particulars see Skreen barony.

Upper

	<i>Acres.</i>
Upper Duleek, by the docket, contains	8,986
Lower ditto, - - -	8,069
	<hr/> 17,055 <hr/>

	<i>Acres.</i>	<i>Acres.</i>
Upper Slane contains,	7,824	} 14,647
Lower ditto, -	6,823	
Upper Kells,	9,689	} 15,403
Lower ditto, -	6,314	
Morgallion - - -	-	15,845
Demifore, - - -	-	21,261
Skreen, - - -	-	10,817
Upper Navan,	8,689	} 19,321
Lower ditto, -	10,632	
Lune, - - -	-	15,019
Upper Deece, -	10,980	} 21,861
Lower ditto, -	10,881	
Upper Moyfenrath,	11,038	} 22,158
Lower ditto, -	11,120	
Ratoath, - - -	-	8,460
Dunboyne, - - -	-	8,880
Upper Duleek, -	8,986	} 17,055
Lower ditto, -	8,069	

General total, -

180,727

According to this survey of Sir William Petty's, (which was considered to have been as accurately taken, as any survey at that time possibly could) it appears, that there were at that time only 180,727 acres of

of arable and pasture in the county. The computation of the present surveyors, states, that there are at least 300,000 acres. After leaving 27,900 acres for wastes, bogs, &c. (the area of the county being 327,900 acres) there remains a fair conclusion, that 119,273 acres have been reclaimed within this county since the Down survey was made!

The county cess, for the year ending Lent 1802, amounts to £.39,220, which is 3*s.* 4*d.* per acre on the chargeable land, (as no land pays cess except that, which is noticed in the Down survey) and 2*s.* per acre upon the arable and pasture lands of the county,

SECT. 5. *Rivers, water, &c.*

THE Boyne river takes its rise in the county of Kildare, and enters Meath at Clonard, the S. W. point of the county, which it divides nearly in two equal parts, forming its general civil division, and constituting a boundary to every barony touching its banks. Its course lies through some of the most fertile and best improved parts of the county.

Its banks, in most parts, rise to a considerable height, gradually sloping from the water's edge to their verdant brow, and in others bold projecting rocks and steep precipices overhang its limpid surface. Though,

In some places, the river is much disturbed, in its course, by sharps and rocks, yet in others it steals silently along through flats of considerable extent, adding elegance and beauty to scenery scarcely to be equalled in Ireland.

Every favourable advantage has been taken of these elevated and bold situations by the noblemen and gentlemen, whose property they are, by building, planting, and other lasting improvements. And there are few situations adapted to the purpose of mill machinery, that are not occupied; so that on this river, in its course within the county, there are at present six extensive boulting mills, besides several grist and cloth mills; and one for the manufactory of cotton is now erecting at Stackallen bridge, contiguous to the course of the Boyne canal.

I should not omit noticing here a very great improvement, first introduced into this county by Mr. Murphy, in his flour-mills, which are situated on this river at Navan.

To have a clear idea of this improvement it must be understood, that flour or meal acquires a degree of heat from the friction of the mill-stones, and if left in a heap, without being exposed to the air for some time after, it is apt to acquire a bad taste and smell; for expedition, and in order to obviate this bad consequence, Mr. Murphy has connected with his machinery a long shaft, armed with cogs, placed spirally on its surface, and turned by means of a leathern band,

band, within a trough of equal length, placed horizontally, and lined with tin, into which the meal instantly, on its being ground, and while yet hot from the rapid attrition that reduced it into powder, falls, and is gradually pushed by the rotated motion of the shaft, and the action of the cogs placed in a spiral direction, from the one extreme end of the trough to the other, where a reservoir for the meal is placed; from this the meal is raised to the upper loft of the mill, by means of a number of small tin buckets, containing half a pint each, which are fixed to the external surface of a band, turned and kept in motion by a drum at one end of the spiral cogged shaft, and a pulley on the upper loft, thus occasioning a constant motion, by which the buckets are filled below, and conveyed full to the upper store, where they discharge their contents. What is ground, those buckets are capable of conveying to the upper loft; and, from the meal first undergoing the action of the spiral shaft, and afterwards being divided into such small quantities in its passage up, it arrives quite cool, and fit for the bolting machine.

By buckets of a larger size, and a contrivance of a similar nature, connected with the same shaft, he raises *all* his wheat from the ground floor to the upper store. He computes that a barrel of wheat is raised in this way every two minutes, or thirty barrels in one hour, without any additional labour. The expence of forming this machinery is a mere nothing, in comparison to

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its utility, and I have been assured by Mr. Murphy, that he finds such benefit from it, that he would not now want it for four times the expence it occasioned him.

The Boyne navigation, between Drogheda and Navan, runs along the course of this river: the trade on this canal has increased considerably of late years; and though a variety of impediments, both local and general, have checked its proceeding with as much rapidity as, from the utility and importance of such a work, the public had reason to hope, yet the earnest solicitude, with which the principal noblemen and gentlemen of Meath seem to forward it to Trim, gives room for the most flattering expectation. Since this line of canal has extended to Navan, the trade and population of that town have increased beyond all calculation. Grounds on the verge of the canal are supplied with manure, with as little expence, at the distance of three miles, as what arises from conveying it by land carriage to the fields immediately adjoining the town; and tracts of neglected swamps, and unprofitable pasture ground, are now so considerably improved, as to produce crops capable of repaying industry. The facility, with which corn is conveyed to Drogheda, renders the demand for grain here considerable; hence the spur to industry. A spirit of enterprize betrays itself in this town, with which its inhabitants were unacquainted, previous to that period, at which a communication by water was opened

opened between the centre of this productive county and the sea; an easy, secure, and cheap communication, for the produce of the soil, gives powers indescribable to the husbandman's efforts. In the course of the ensuing summer there is every fair prospect of its advancing to Trim, from which, and the intended off-branch to Athboy, through Kildalky, the benefits arising from opening a trade with so fine a tract of country, together with the communication with so considerable an extent of bog, are innumerable.

The Blackwater river is next in consideration to the Boyne, into which it falls at Navan. It issues out of Lough Ramor in the county of Cavan, as I have already mentioned, and enters Meath in the upper half barony of Kells.

In its course towards the town of Kells, near which it runs, it passes through rather an unimproved part of the country, although possessing great capability of being beautified by the hand of art; but when it enters the magnificent demesne of the Marquis of Headfort, it expands itself into an immense and beautiful sheet of water, to the extent of many acres, forming a fine object when viewed from the superb mansion of the noble Marquis.

From this to Navan it passes through a highly improved and rich country, and in its course supplies two flour-mills, one of which, belonging to Mr. Fay, is perhaps the most extensive, in point of storage, in Ire-

land, and, if it commanded a greater head of water, could work machinery to any extent. This concern forms an oblong hollow square, two sides of which are 216 feet each, and the other two are 157 feet from out to out, enclosing a space of 167 feet by 88. In this space Mr. Fay has erected a double kiln, 80 feet by 24. This square consists of a flour-mill, corn-stores, malt-house, brewery, and distillery; that side running parallel to the river has seven lofts, and the other three sides have five lofts each.

Mr. McDonnell has also erected on this river (immediately above Mr. Fay) a paper-mill, which is worked to very great extent; in it are manufactured all kinds of brown and lapping paper, paper for hangings, and some letter paper; but the demand in the country being chiefly for the coarser kinds, they are, consequently, the principal sort manufactured. He has also erected machinery for stamping paper-hangings, &c.; and, in the several branches of his manufactory, from the gathering of the raw material, of which the paper is composed, to the delivery of that paper when manufactured, he employs a number of persons of all ages and sexes.

Into these two rivers almost all the waters of the county flow, except the Nanny, and, through the channel of the Boyne, empty themselves into the sea below Drogheda.

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The Athboy, the Knight's-brook, and the Kilmeffin rivers are the principal of those, that fall into the Boyne; on two of which, viz. the Athboy and Knight's-brook,* there are flour-mills erected; and the other has grist-mills. The Moynalty river (or Borora), running through the marshes of Rosmin, Emla, &c. is the only one worthy of note, that adds its stream to the Blackwater; on this there are three grist-mills, and a flax-mill, some time since erected by Thomas Barnes, Esq. but now gone to decay.

The river Nanny takes its rise near Navan, and running in an easterly direction, shapes its course through the romantic glen of the Diamond-rock, and, meandering at the foot of the extensive amphitheatre formed by the bending of those lofty hills, it enters the elegant and highly beautified demesne of Somerville, the charming and hospitable residence of Sir Marcus Somerville, Bart., where it opens wide into a grand and diversified expanse, on whose surface a variety of wild water-fowl are constantly seen enjoying all the privileged security of domestic animals; thence proceeding to the sea, it affords sites to three flour and several grist-mills in its course,

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* This river some time since extended itself into a beautiful sheet of water, covering many acres, in the demesne of Dan-gan: this the present proprietor has now almost drained; his taste for farming making him prefer a view of beautiful fields to the finest aquatic scenery.

It is supposed, that the water of this river is peculiarly adapted to the purposes of bleaching, but from what reason I cannot learn.

A small part of the county touches the sea coast, but little advantage arises therefrom, as the coast in that part is principally a shelving strand, with little or no depth of water.

If we except a small part of Loughsheelin, which bounds the county, a small one at Lakefield in Demifore, and an inconsiderable one at Whitewood, and that already noticed in the demesne of Dangan, now almost drained, there are not any lakes, nor any extensive sheets of water, except such as are raised by art in the demesnes of the noblemen and gentlemen of the county.

This happy disposition of the bolting-mills through the county proves of the greatest advantage to the farmers, bringing, as it were, the market to the door of each; for the markets being generally carried on by sample, instead of what are called pitched markets, the farmer has not the double carriage on his corn, first to market, and thence to the mill; or if he fails in selling, he does not run the risk of having his property spoiled by rain, or any other casualty which may occur; and as to the effect it may produce on the market, by the farmer's withholding or producing the sample, according to the price, it is but a consideration of a secondary nature, when compared to combination amongst the buyers

buyers and corn-factors, who are few indeed, when compared to the number of the farmers, and, of course, more capable of combining, and fixing a price. Indeed our farmers are not always men of sufficient capital, to be able to withhold the sale of their grain, nor have they, in general, stores to keep it in, though ever so well inclined; they must, therefore, first thresh for the fodder, and then must sell for want of storage; but in case there is any advantage to be derived in the sale of grain, on one day more than on another, it is but right that the farmer should have it. He has borne the burden and heat of the day; he must pay his rent, let the crop hit or miss; he employs the most useful members of the community, an hardy peasantry; and he pays, I may say, all taxes, for almost all taxes ultimately fall upon the land; therefore, in all well regulated states, the farmers should be the first object of care with the legislature. If, when the farmer brings his sample to market, his next neighbouring miller offers him a price nearly equal to that, which one at a distance will give, he is generally preferred on account of his propinquity; of course, he has seldom more than a very few miles to send his corn, and it becomes the mutual interest of the neighbouring miller and farmer to deal together.

CHAP. II.

STATE OF PROPERTY.

SECT. I. *Estates.*

THE number of resident gentlemen in the county, who hold their property in fee, is very circumscribed, though the possessions, which are misnomered estates, are very numerous.

After the suppression of the rebellion of 1641, and during Cromwell's usurpation, most of the inhabitants of the county, possessing estates, being Catholics, forfeited them, and these were parcelled out mostly to Cromwell's adherents. And afterwards, in 1691, King William not having it in his power, from the embarrassed state of the British finances, to reward his military associates as liberally as he wished, made grants of immense tracts of ground to them in lieu of pay. The tenure under these grants was at first considered of rather a precarious nature, which, added to the disturbed state of the country, made the property be esteemed as of little value.

These

These considerations proved strong inducements to the original grantees to wish, by giving leases for ever to persons of some substance residing in the county, to establish a property for themselves; and happy was the man considered who, at that time, could so dispose of the property thus obtained. The person, who was able to procure from one to two shillings per acre, was considered as being fortunate. Some were so inconsiderate as to sell the grant for a mere trifle; and one estate in the county, we are told, was given by a cornet of dragoons to a blacksmith for a set of shoes for his horse, when marching through the county. So anxious were the proprietors of these estates, for the first fifty years after the revolution, to secure a property to their children, that it has frequently happened, when a landlord was letting his estate, that he insisted on giving the tenant a perpetuity; happy ignorance of futurity for Ireland! How many thousands of pounds would be yearly drawn from this country, more than is at present the case, had the English proprietor suffered, by granting determinable leases, instead of perpetuities, his property to revert to himself, reserving to his successors the power of re-letting at the improved value? As the proprietors in fee of two-thirds of the county are absentees, were such the case, the principal part of the real property of the county would now be expended in London, Bath, or some other place of public amusement in England, by persons whose indifference,

ference, as to the condition of their estates, and the situation of their tenantry, is not to be paralleled in any country, and who merely seek for their rent, without ever wishing to amend the circumstances of those, who produce it. For though money, like water, is said to find its own level, yet this takes some time, and though we must feel the present regular annual drain, we are often a long time before we perceive the reflux.

- There can be no better illustration of this subject, than by taking a view of those properties, whose proprietors reside in the country, and those, that are conducted by agents. The landlord, when living amongst his tenantry (to say nothing of the good arising from the mere consumption of his family, and employment of the poor), can distinguish the industrious and improving tenant from him, who impoverishes his ground, and neglects his business; and can, by preferring the one, and discountenancing the other (not to mention the thousand nameless ways of doing good, which every day present themselves), in a short time so alter the face of his estate, as to give it an appearance totally different from what we every day witness: these things are never in the power of an agent to do; all he looks to is to receive the rent, and, when a farm is out of lease, he advertises and re-lets it, with little or no preference to the improving tenant, more than to him, who impoverishes his ground; and the landlord
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in this case, though applied to on the subject, from a want of personal knowledge of his tenant, or even of his property, must take hearsay information, or what arises from recommendation (which is generally interested), for his rule, and thus be unintentionally unjust.

But to return to the subject, the persons, who received the property from the original grantees in perpetuity, wishing, in the then disturbed state of the country, to establish themselves firmly, and increase their influence, let large tracts of their possessions at a small advanced rent, perhaps from eighteen pence to three shillings per acre; in some instances even these men re-let for ever; but in most cases the third man, from the person in fee, made the determinable lease, and holding, in general, at from three to six shillings per acre, is considered the proprietor, and his property strangely misnomered his estate; his is most commonly the best interest of all; and, from letting the property revert, and taking advantage of the rise of land, he increases his income yearly.

Although this is generally the state of property in the county, yet we have many instances of tenants in possession, holding immediately under the possessor of the fee, both in perpetuity and determination; the former at different rents, from six to fifteen shillings per acre; and the latter at the full improved value of the land, at the time of its being let.

This

This kind of middle men, each possessing a better interest than their landlord, are only to be met with in Ireland, and that for the reasons before stated, viz. that almost the whole of it was, at different periods, forfeited land.*

Alienation of property is becoming every day less frequent; so that, from having a perpetuity pressed on a tenant, it is now next to a thing impossible to get possession of even as much land, for ever, as would induce one to build upon, and establish himself in the county.

The fee of Meath is principally absentee property; I think seven-eighths of the answers to my queries were to that effect.

SECT. 2. *Tenures.*

In treating of the foregoing subject, I necessarily mentioned, in some degree, the nature of the tenures of the county; but as there are many gradations, from the possessor in fee, to the tenant in possession paying a rack-rent, which more properly belong to the head of "Leases," I shall reserve my remarks on the subject for that particular part of this work, and merely proceed to shew, that there are few or no properties held
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* The Marquis of Landown has 66,000 acres of estate in the county, which he never has seen.

at present by foccage, or gavelkind, though many landlords exact what they term duty work, duty yarn, duty fowl, &c. together with the usual sum in money, which is certainly the dregs of the feudal system, much in use before the revolution, but since that time, from the change of property, and the lords of the manor being generally absentees, almost entirely done away; indeed, I believe, there has been but little of that kind of tenure, since Meath reverted to the crown, which happened in the reign of Edward the fourth, by the marriage of an heiress of Jeneville, Lord of Meath, to Mortimer, Earl of March, and so by marriage descended to the crown.*

In some instances, where leases are made, (though I must acknowledge they are very few) the right of commanding all freeholders voices, upon elections for the county, is reserved.

CHAP.

* Appendix, No. 3.

CHAP. III.

BUILDINGS.

SECT. I. *Houses of proprietors.*

THERE are in this county twelve noblemen's seats, besides many commodious and elegant mansion houses, belonging to the resident gentlemen of large property, some farming the whole, some a considerable part, and some only a very small proportion of their properties.

Those houses, that have been lately built, are according to the strictest rules of modern architecture, in which lightness and elegance have been studied with success; those of more ancient date are generally larger, but not in any degree as well planned, either for the convenience of the occupier, or in respect to external appearance, arising, perhaps, from the different parts of the house being built at different periods, according to the taste and style of the times, in which it was so built. The offices of the modern built houses are compact and convenient; those of the more ancient buildings are straggling, covering an immensity of ground, with little or no convenience. The object of the ancient
improver

improver was, to be smothered in trees, to prevent his seeing "the nakedness of the land," and to obtain shelter in an unsheltered country; that of the modern improver, to be seen in the midst of a spacious lawn, commanding an extensive view of a rich and cultivated country; to effect which, his plantations are extended to, and situated at a distance from the house, and his offices occupy as small a space, and yet are as convenient as possible, though situated, perhaps, at a considerable distance from the house.

To give a particular description of every building, or improvement of note in the county, would very far exceed the circumscribed limits of this work, and is a task of such a nature, as I should never be capable of performing; many of them possessing beauties, both from nature and art, far exceeding my powers of description; and though ever so ably described, no useful consequence could arise therefrom. I shall, therefore, decline entering on this subject, and proceed to report on the state of the farm houses and offices, any information respecting which I look upon as of more material moment to the Society, and the community at large, as to them their attention may be directed with some promise of advantage.

SECT.

SECT. 2. *Farm houses and offices.*

THAT description of men, whom I shall here style the common farmers, consists of those, who occupy from twenty to one hundred acres, and, in a few instances, one hundred and fifty acres of ground, at the fair value between landlord and tenant; and this class is, I think, with respect to their circumstances, worse lodged than any part of the community. There is no point of rural economy, to which the attention of the Society might be more usefully directed, than in endeavouring to promote the comforts, and trying to meliorate the condition of that most useful body of men, with respect to their dwellings and offices. Their houses are, for the most part, extremely wretched, and, in general, this arises from too great a burden being thrown by the landlord upon the tenant; and to hope to see any material improvement effected, until the present system is totally changed, is vain and fruitless.

When a farmer, under the present system, enters upon a new farm, he generally has a house and offices to build, perhaps the whole to fence, and this, upon a lease of twenty-one, or thirty-one years, a term now generally considered good. It is not to be expected then, that the tenant upon such a tenure will build with the most durable materials, nor put himself to
any

any extraordinary trouble or expence, in procuring the most improved plan. He builds that same kind of a low, mud-wall, dark, dirty, and smoaky tenement, which, under the same system, his father lived in before him; in which he was reared, and to which, from custom, he is so familiarized, as to be blind to its inconvenience; to this house he adds a stable and cow-house, of the same materials. His barn is often founded with lime and stone, to guard against vermin, but the same precaution in erecting stands for corn is not so generally put in practice. These however, I must acknowledge, are gaining ground, in proportion to the experience of their utility.

These farm-houses are generally formed from the earth, or clay, of the surface of the spot, on which they are built, in order to save the expence of carrying it from any distance; hence, the ground floor is commonly six or eight inches below the level of the surface, outside the walls, and consequently subject to all the unwholesome effects arising from damp, to which the whole family are in a great degree subject, from their straw beds being, in most instances, placed upon the bare floor, without even a mat, or bedstead, to protect them from its influence. In these houses, a second or boarded floor is seldom seen or thought of. This farm-house, and these offices, seldom last longer than the lease, frequently not so long, without propping and repairs, so that the farm-house tumbles when the lease

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expires;

express; nor is it the wish of the farmer, that it should be otherwise, as in the reletting of these grounds, which he has occupied, perhaps a stranger is preferred, in consequence of his paying some trifle more than the old tenants, hence, it becomes the occupier's interest to run out his ground, and let his house go to ruin, as in that case he must necessarily provide for the worst that may happen, thus putting himself upon an equality with other bidders for the farm, by taking away the temptation of a good farm house, and reserving his money rather than expend it, where casual or capricious occurrences may deprive him of a property, in which, perhaps, he and his family were resident, with unblemished characters, for a series of years. As nothing contributes to the farmer's comfort and convenience, or enables him to pursue his occupation with greater facility, and of course increases his profits, more than good and well disposed buildings, so there is no object, to which the attention of the landlord ought to be directed more strongly, or which will repay that attention more amply. On no account should the tenant be necessitated to expend that capital on building, which should be employed in improving the soil, or laid out in stock.

It is the duty of the landlord to provide all these necessary buildings, and there are few instances, where a good and convenient house, and set of offices, would not bring at least fifteen per cent. upon money so expended

expended, perhaps I should not exaggerate, if I said twenty-five; the farm, with house and offices, will invariably have three bidders for one, who may offer for that, which has not those conveniences, and the landlord may, by dilapidation clauses, (the penalties of which should be strictly enforced on every forfeiture) always have the premises in tenantable order. A great deal of the filth, at present to be found about the farm-house, is in a great degree attributable to the tenant, but much more so to the neglect of the landlord, in not providing for him the means of cleanliness. As long as the present mode is continued, in having the foddering yard in front of the farm-house, instead of having it in the rear, every exertion towards cleanliness, in the housewife, will be fruitless; for though a common expression prevails amongst people of this class, that "where there is muck there is luck," yet I never understood, that muck was of necessity to lie at the front, nor that the farmer and his family should wade knee deep in it, every time they went in or out of the house; the farm-houses may literally be said to be immersed in excrement.

Suppose a gentleman, having one hundred and fifty acres of ground to let, would lay out £.100 in building a nice cottage, two story high, a stable, barn, cow-house, and corn-stands, upon the most improved plan, is it to be supposed, that he would not get two shillings per acre more for that farm, after the house, &c. were

built, than before? And if he laid out £.200 upon it, I think he would easily get four shillings advance, and have his house, at the expiration of the lease, as good as the first day; for my own part, I would sooner give a guinea and an half for ground so convenienced, than thirty shillings without the buildings.

Sir John Dillon has built, at Lismullen, a very good farm-house, fit for the residence of a farmer, who holds one hundred acres of ground, which is slated and lofted, and from the disposition and number of the windows, calculated to save the tax, at the same time admitting sufficient light. This house, he assures me, cost no more than twenty guineas; but, as he procured the timber from his own demesne, a great saving accrued to him, that should in a fair statement be brought into account; however, from every calculation, I think such a house could be built for about £.40. This would leave £.60 for stabling, &c. which, allowing them to be thatched, would be a sufficient sum.

The late Michael Tisdall, Esq. of Charesfort, allowed each of his tenants one year's rent for building a farm-house, the plan of which he supplied them with. During his life, those houses were kept in very nice order; but, since his death, the occupiers have become extremely slovenly. They were all rough-cast and white-washed, which gave them a chearful appearance, and at a little distance had a good effect; and they were cleaned and white-washed in the inside
annually,

annually, as much for comfort, as with an intention to prevent the generation of infectious diseases. This practice is insisted upon, and kept up with due observance, by Baron Hufsey, throughout his estate at Rathkenny; each cottier's dwelling is clean and comfortable, having small gothic windows, which give them an appearance of neatness and uniformity.

The first thing to be looked to, in laying out a farm-yard, is a supply of good running water; the next a gentle rising ground for the dwelling-house, to prevent the accumulation of damp; and then a proper place for the dunghill, to prevent its being exhaled by the sun's heat, or exhausted by the rain washing out and running to waste its most valuable qualities. By paying due attention to these three points, and having the beds of the farmer's family removed from the ground floor to the loft,* putting all the windows of the house

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* It is a very mistaken idea of economy, to build long low houses, such as we generally see the farmers inhabit, in preference to those, which are shorter, and more lofty. The principal expence consists in the roofing: if every disadvantage of thatch, and every advantage of slating, were taken into consideration, I think, at the end of twenty-one years, the slating would be by far the cheapest. Against the practice of thatching must be considered, the loss on the first cost; loss by harbouring vermin; loss on the manure, of which the land is deprived; loss on the want of profit in the young cattle, that would have eaten the straw so used; and loss of the above every sixth or eighth year during the term, besides occasional repairs,

on hinges, or having them fastened, so as to slide horizontally,* in order to admit the free circulation of air through the house (a practice not at all looked to at present), together with yearly white-washing with lime, the landlord would have the satisfaction of seeing cleanliness, and with it health, introduced and diffused amongst his tenantry; and though the present generation, perhaps, could not be prevailed upon to adopt cleanliness, yet the rising one might, from habit, contract a taste for it.

repairs, as scarcely any thatch will last longer. Against this we must set the very great expence in the first cost of slating, and take into consideration the comfort, through the whole, and the state of repair that the roof will be in at the end of the term.

* I have tried the cottage windows on hinges, on pullies, and on a sliding frame, and give a decided preference to this last mode. The glass of the hinged sash is often broken by the wind clapping it to, from the neglect of securing it; and the pullies of the lift-up sash are generally so often out of order, that the sash slips down, and commonly breaks the glass; but the sash of three feet broad by two feet high, so made as that one sash will slide past the other horizontally, no wind nor neglect can possibly subject it to danger of being broken. Work should be so executed for cabbins, that ignorance, neglect, or unhandiness could have no effect upon it.

SECT.

SECT. 3. *Cottages.*

NEXT to the common farmers, the labouring poor claim the fostering attention of the Society; for though the comforts of the latter are fewer, and their habitations, *if possible*, more wretched than those above mentioned, yet the one being the employer of the other, we must first hope for an amendment in what relates to him; for until improvement arrives at the farmer's door, it can never pass on to that of the cottier.

These cabins, or rather hovels, are in general wretched beyond description; often not sufficiently covered in to keep out rain; they are all built with mud, and, as in the case of the farmers houses, the clay is taken to build the walls from the spot, on which they are raised, leaving the surface of the floor, and the ground immediately about the walls, the lowest part, and, of course, subject to receive all the surrounding damp; so much so, that I have often gone into a cabin, and seen a hole dug in the floor, to receive the water coming in at the door, or under the foundation, from whence it might be pailed out with the greater ease when collected.

On this damp floor the family most commonly sleep, generally without a bedstead, none of them having a loft, except in town cabins, where the ground for
building

building on is more valuable. The inside of their huts is as filthy, as their outward appearance bespeaks them to be; this, however, in a considerable degree depends on themselves, and is owing, in a great measure, to a want of exertion; but the whole does not spring from this cause; great part of the blame is due to the landlord, and might be corrected by a little attention in building their houses in good situations, and keeping them water-fast, and by the enforcement of a few trifling regulations, such as obliging them, under certain penalties, to open their windows, turn up their beds, and other daily observances in respect to cleanliness.

The class of cottagers I speak of, as being the poorest in the county, are those, who are not attached to any farmer, or, if they are, to those of the lowest order. The labouring cottagers immediately under gentlemen* generally fare better; their houses are, for the most part, water-fast; but as to their having lofts to sleep on, proper windows either for light or ventilation, or the floors raised above the level of the immediately surrounding ground, it seldom is the case. Few of

Note by a resident gentleman.

* This remark does not apply to many graziers in this county, whose negligence, as to the state of their poor labourers, is so apparent in the appearance of their houses and families, that a stranger visiting this country must not only wonder at their pitiable condition, but deplore the little prospect there is of amendment.

of them have chimneys, and fewer still have any other means of admitting the light, than by opening the door, or a small hole in the wall, stopped up occasionally with a bundle of straw, &c. The hog is generally the inmate; the hens constantly; and if they are possessed of a cow, she also is introduced, and becomes one of the family.

It would be extremely wrong in me to omit mentioning here those persons, who have been attentive to provide comfortable habitations for the poor on their estates. Amongst these, the Right Hon. John Foster, late Speaker of the Irish House of Commons, stands conspicuous. On that part of his estate between Colton and Blane, he has built some very neat cottages, where the internal comfort of the cottager is studied with success. Brabazon Morris, Esq. has built, at Tankardstown, a very good range of labouring tenants houses. The late Sir James Somerville, some time before his death, built for his labourers a range of cabins near his demesne, which, for neatness and convenience, must be classed among those most approved of in the county: each of these has a garden, and an out-office for a pig and cow.

The cottiers on the Summer-hill property are well lodged. There is also a good range of slated cottages belonging to the Marquis of Headfort, at Kilmainham near Kells. Gustavus Lambart, Esq. has his labouring tenants well lodged; his houses are built in one range,
and

and two story high. But the tenants of Samuel Winter, Esq. at Angher, have more the appearance of real comfort, than those on any estate, that I have seen in the county, by the addition of a good kitchen-garden to each house. John Gerrard, of Gibstown, Esq. has built a good range of stone-wall cottages; they, however, want a second floor. I do not immediately recollect any others, who have taken particular pains to lodge their poor more comfortably than heretofore, although many endeavour to make them more cleanly in their persons.

Filth and poverty generate each other in the poor man's cabin. Dirt creates sickness, and sickness poverty, and then poverty dispirits exertion, and want of exertion produces that state of nastiness we every day witness. Few, who are acquainted with the condition of the lower order, but must acknowledge the dreadful wretchedness, arising from the repeated attacks of infectious fever, to which they are subject. When once it gets firm footing in the house, it generally visits every individual of the family, some perhaps twice, some oftener; and it does not unfrequently happen that, by the visitation of this calamity, the man of the house, on whose labour the subsistence of the family depends; is prevented from working for eight or nine weeks together, and generally in that season of the year, when the demand for labourers is greatest, viz. spring and autumn.

When

When you meet a poor man, that you have known to be industrious and well conducted, and behold him emaciated, his wife and children in rags, and his house dirty and disorderly, you naturally enquire the cause, which the poor man fully answers, by saying, "sure, Sir, we had the fever." This fever most commonly originates, and is engendered in cabins, where several of the family sleep together on the ground floor, and where a free circulation of the fresh air is not admitted daily through the house. The close effluvia, arising from numbers of the family thus lying together, and damp from the floors, aided by want of cleanliness in their persons, I am convinced, sow the seeds of distempers, which are afterwards brought to maturity in the bodies of the family, and, when firmly rooted, spread their pestilential infection, perhaps through a whole village.* I am strengthened in the idea of its originating in dirt and foul air by a well-known fact, that this fever seldom or never originates in houses, where the inhabitants sleep more apart, or are more careful to admit the fresh air to circulate freely through their sleeping apartments.

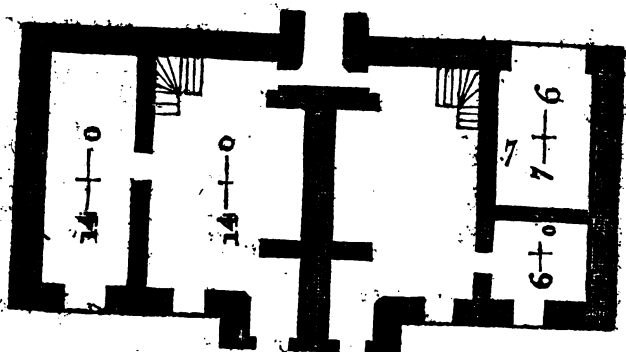
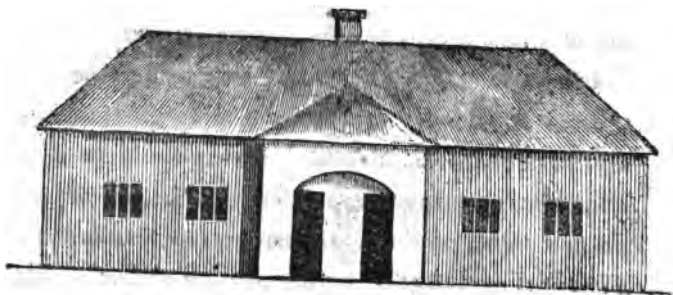
Persons

* I have been told the smell arising from any quantity of potatoes, kept in the house in spring, when beginning to put forth their shoots, is very conducive to the origination of infection. To breathe the air impregnated by the vapour arising from decayed vegetables, has long been considered extremely deleterious.

Persons living in a higher sphere of life are not so generally subject to the infection as the lower class; even servants, living in gentlemen's houses, seldom engender this kind of fever, and, though sent into the cabbins where it rages, hardly ever bring home the infection; from which it may be fairly inferred, that it in a great measure originates in want of cleanliness, poverty of food, and the consequent depression of spirits. It is likewise a general case that, where you see a cabin neatly kept, you may conclude that the family are thriving, and in good health, and vice versa.

The yearly rent of these cottages varies, according to their state of repair, garden, contiguity to bog or market towns. They are generally let from one to two guineas yearly, and, where the garden exceeds three or four perches in extent, they go to two guineas and a half. The rent of cottages attached to a farm, whose occupier works with, and is bound to the farmer, I shall mention under the head of *Wages*, as the house-rent is included in the wages.

I should be very sorry, in the foregoing general statement, to be accused of precluding exceptions. In the county are many instances of uncommon neatness and taste about farmers' houses, and cleanliness in cottages, and that, too, upon farms not exceeding the number of acres specified in the foregoing statement. But then they have, for the most part, better leases than those mentioned, or hold under landlords, who are known to give



give a decided preference to the tenant in possession, or to those who are known to improve.

I shall here venture to submit a plan of a double cottage, upon a small scale, to be executed at a trifling expence, calculated to be easily ventilated, and to admit of a second story for the sleeping apartment.

In this submitted plan, every two cottages have a common back door; and those, who do not study the outside appearance, may have a common front door also. Each cottage has a cellar and kitchen on the ground floor, and two sleeping-rooms above stairs. The chief advantage of having cottages double is, that there is an end-wall saved, as three end-walls will answer for two cottages, and, by building them singly, each must have two; and, by having only two together, the upper story of each may be lighted from the end-wall, which must be raised two feet higher than the side-walls.

In plan No. 2, the cellar is divided, and a door is left to open to the rear of the house; this will serve as a cow-house, and is capable of holding two cows. The cellar in this case is only six feet by seven; in the other it is fourteen by seven; in every other respect the plan is the same. These two cottages may be built in situations not unfavourable, for about fifty pounds sterling. I have executed one upon this plan, and may safely assert, that its comfort and appearance have exceeded my expectations.

CHAP.

CHAP. IV.

MODE OF OCCUPATION.

SECT. 1. *Size of Farms, and Character of Farmers.*

THE extent of farms in this county differs materially, being found of every size, from twenty to five hundred or one thousand acres. The general amount of those divisions, called town-lands, are from two to six hundred acres, and were originally that proportion of ground, which was found to feed four hundred cows.* This mode was extremely erroneous, as many portions of those farms, which at a former period were empoyoned by stagnant water, are now profitable, nay even good arable ground, of course capable of fattening a greater number of cows, than when in a state of nature.

Although many farmers hold only a part of a town-land, yet there are others, who occupy many town-lands, so that it is very difficult to strike an average.

The person, who provincially goes by the name of a

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* Appendix, No. 4.

strong farmer, holds from one to three hundred acres; those, who have more, are generally styled graziers, and are, both from their education and intercourse in life, esteemed of superior rank to the farmer, and do not visit or associate with him, further than is requisite for the transacti^on of business.

Graziers hold immense tracts of ground in their own hands; scattered up and down through the county; some farms are perhaps fifteen miles from the occupier's place of residence; in such case, it is hard to expect, that he can make as much profit of his land, so circumstanced, as he would, if it were situated all together within his immediate reach; nor can he make so good a profit, in proportion to the extent of this tract, as he could of a much smaller one, if cultivated with more care and attention; not to mention the loss of interest on the capital, necessarily employed in stock, those distant farms being for the most part grazed.

Henry Daniel, Esq. holds at present, I believe, three thousand acres in his own hands. Thomas Rothwell, Esq. has eighteen hundred, beside many others of like extent. Brabazon Morris, Esq. had, for the space of four years, one thousand acres under the plough, some of which (and, I understand, the greatest part) was four miles from his house; notwithstanding which, he drew the produce of his corn ground home to his place of residence. He has assured me, he had the produce of seven hundred acres of corn-land, and one hundred

hundred acres of hay, in his haggard of Tankardstown at one time, beside three hundred acres of hay, and some corn at his distant farms.

I have heard it asserted, that large farms are generally more productive in the gross, than those of smaller extent, because the large farms are generally occupied by men of capital, who make greater exertions for their improvement, than those holding farms of a smaller size; to which opinion I most readily assent, when I compare the farmer, holding from two to seven hundred acres, with the farmer holding under forty. The lands of the one are, during the term of occupation, in a state of progressive improvement; the other in a retrograde state of impoverishment.

Suppose three hundred acres of land let to one farmer, with capital equal to its management, and the same quantity let to ten, or more, with such capital as *that kind of farmers generally have*, and that a regular account was kept of the produce brought to market, and the number of hands employed, together with the state of improvement when coming into possession, and at the end of the term; I am well persuaded the extensive farmer will have contributed more to the *general* good of the state, than those of less ability; he will have sold more beef, mutton, wool, and corn, and have employed more of the labouring peasantry, and of course contributes more to the increase of population, than a number of indigent small farmers, possessing the
same

same extent of ground; and there is no question of doubt, as to his leaving the farm in a better condition, than if occupied by many.

It was the general practice, some years since, (which in a great measure still continues) when a mountain was to be improved, or bog reclaimed, to divide it into small portions, of from one to ten acres, and to let them to poor labouring people, for a short term of years; these poor beings built hovels to live in, and worked hard, to make this spot produce potatoes; then they sowed rye, and by degrees, perhaps, made their tenement support a cow for their use, the manure of which greatly assisted in reclaiming the remainder; when this term was out, it was generally let to some one person, holding the adjacent upland, who having capital proceeded upon the ground work laid by the small farmer, by liming the mountain, or putting clay or gravel on the bog, draining, burning, &c. which soon brought it into such a progressive state of improvement, as in a short time repaid the capital and interest, expended in this way.

We generally find the best grounds occupied by extensive farmers and graziers, and where you see the country in the occupancy of a number of trifling farmers, you may generally conclude that it is a bad vein of land.

Such was the policy of the middle man, some years since, that as soon as he got a farm into his possession,

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he let the unimproved and impoverished skirts of it, at an advanced rent, to wretched tenants, and held the remainder of the farm, by these means, at something under the original rent; the consequence of which was, that the unimproved parts of the farm remained such, and the poor parts were made still poorer; this wretched policy, I am happy to say, is in a great measure out of practice.

I know of no class of men in society, of greater hindrance to agricultural improvement, than the class of farmers, who hold from two to ten acres of land, generally at a rack rent, and who, in their proper place, would be much more happily circumstanced, in working for the extensive farmer. They, in the first instance, raise land above its real value, in order to get a footing in the country; and to enable themselves to pay their rent, they commit depredations all around them.

Their horse and cow are continually trespassing on the grazier, or feeding on the road side: if hay is scarce, the hay-cock or sheep-rack suffers; if the grazier has held up a field for early grafs, clover, &c. this little farmer's hook is busily employed in cutting it for the use of his half starved cow or horse; hedges are destroyed, and fences broken down, because it is his interest to have all things in common; his geese and turkies, &c. are sure to be shewn the way to the corn fields; and the ditches of the high roads are scoured for

for manure, until half the road is taken away, and then he obtains, through the interest of his landlord, a presentment to repair and widen the same, to be treated in like manner after the lapse of a year or two.

In the second place, this spot of ground is never tilled as it out to be, from want of horses; four, perhaps five, of these *tormentors of the earth* being obliged to join, before a plough can be made up, these plough alternately, and from the time they commence their operations, until the sowing is finished, they are continually disputing about the work done; whose turn it is to have the united force next, and each accusing the other of making his horse work than he should, and (by tying up tight in the yoking, and other petty contrivances) sparing his own. Such disputes, and the non-performance of contracts with the unfortunate labourer they now and then employ, have occasioned more trouble to me, as a magistrate, (as it must have done to others alike situated) than what arises from all disputes on other subjects put together, that from time to time have come under consideration.

The farmers, who hold from fifty to a hundred acres, are a very sober, industrious body of men; they themselves work much harder, and in general fare very little better, than the common labourer or journeyman mechanic.

Those from one to three hundred live comfortably and well, pay close and constant attention to business,

stand continually over their men, and improve their grounds by gravel, ditch scourings, draining, &c. but seldom plant quicks or trees on their ditches.

The farmer and grazier, holding from three to six hundred acres, is the man, whose ground is in the most perfect state of improvement. That quantum is sufficient to occupy his whole attention, that is, all the attention he is willing to bestow upon it; and, I believe, farms of this extent turn to the greatest account for the benefit of society, when the occupier's whole time is engaged in its improvement and management. I should imagine, that no one man's attention is sufficient to superintend a larger farm than this, (and not even so much, without it is situated contiguous to his residence) so as to turn it to the *greatest possible account*, although many graziers will insist on it, that no person can live in the style of a gentleman on the profits of six hundred acres of land; such, indeed, was the old opinion; land and stock, however, are now raised so much in value, as to leave it almost out of the power of persons to hold, or provide stock for such extensive tracts, as were formerly in the occupancy of one man; and they now perceive, they can make much more of their grounds by letting them, than they ever did by grazing them, not to take into consideration the interest of the capital employed in stock.

We have few instances of fortunes having been made by farmers, although many have been accumulated

lated by extensive graziers; but the success of the latter I attribute more to the rise upon land, than to any other cause.

It is a common saying, and I believe founded in truth, that a man cannot make money by farming, except he is at the tail of his plough, and attends to his business with close and unremitting assiduity. The farmer's property is continually under his servants, and from the sowing day, to the day of delivery at the mill, it requires his unwearied attention; as well to protect it from the depredations of persons employed in the threshing, winnowing, &c. as from the many casualties, to which it is subject in its several stages.

Not so the grazier; he is pretty sure his beasts are secure and thriving, whilst he is not attending, as well as whilst he is; and if his farm is well fenced, (which ought to be his first care) and the key of the gate in his own possession, he may be pretty certain also of not having any trespassers upon his grounds, which are the grazier's greatest annoyance.

SECT. 2. *Rents.*

It is difficult to average the state of rents in this county, as they are found variously circumstanced, in different parts of it, from five to fifty shillings an acre.

Those

Those at five shillings, however, are old leases, granted in perpetuity, immediately after the original grant. In the neighbourhood of towns, such as Navan and Kells, the rent has amounted to four guineas, and five pounds per acre, that is, for small fields, for the purposes of feeding milch cows and horses, for private families residing in the town. Grounds having an extensive right of turbary in the neighbourhood of towns, that is, within three miles, let far above their intrinsic value; but to call this the rent of the land would be unfair; particular circumstances may raise the value of any situation incredibly, however little intrinsically valuable it may be in itself. The fairest way, therefore, of treating this subject, is to state what the land of the county would let for at present, without taking into account the local advantages, which it may enjoy, and supposing it to be all out of lease, and to be let to responsible tenants, which, from every information I can receive, would (including all commons, mountains, swamps, and every part except what is termed high bog) let for one pound five shillings, some say 30s. per acre upon an average, which, supposing the county to contain 300,000 acres, after deducting 27,900 acres for bogs and wastes, would be, at one pound ten shillings per acre, £.450,000 yearly for the county.

Rents are invariably paid in money, i. e. bank notes, which may now be called the circulating medium of the county, except where landlords stipulate for the carriage

carriage of some turf, a day digging potatoes, &c. and this is generally paid along with the usual rent. The cutting so many kilns of turf each year is often given as rent, for small divisions of ground in the neighbourhood of bogs, and, I think, may be considered as a fair rent, as the expence of cutting generally rises in the same degree as the value of land.

The payments are made half yearly, and become due the first of May and the first of November in each year; that due at May is paid in November, and that due at November is paid in June following; so that the tenant generally has from eight to fourteen months rent in his hands. This modus is supposed by some to be of general advantage, while the landlords complain, that it deprives them of the interest, that might derive from what is called the hanging half year's rent. The fact is, that a capital in the hands of the farmer is of far more general utility, than what might at first be supposed, not only to himself, but to his landlord, and those employed in the laborious part of husbandry. Grounds in the hands of the indigent farmer are generally seen to lie in a state of unimproved wretchedness, rendering the occupier unable to pay his rent with punctuality, and incapable of improving their nature; whilst those possessed by farmers, who have it in their power to manure, and improve their quality, are so productive as to repay them many fold. As a proof of the utility arising from the farmer possessing a command

mand of money, we may instance one good effect produced from the high price of grain during the melancholy dearth, that prevailed in the last spring and summer months, namely, the greater number of acres, that have been manured within the county, and other improvements, as draining, &c. &c. in a proportion far exceeding the like in any year for a length of time, previous to the present.

SECT. 3. *Tithes.*

THERE are very few instances in this county, of tithes being taken in kind, and that only where the titheman and farmer disagree, as to the value of the composition; the composition, except in a few parishes, is so very reasonable, that the farmer would be extremely unjust to himself not to submit to it, the twentieth part being seldom demanded, where the tenth is really due. If the clergy were sure of receiving the twentieth in cash, they ought not to draw their tithes, and it is never the farmer's interest to throw out the sheaf, as the term is, if he can compound even for the fifteenth; so that it becomes the mutual advantage of both farmer and titheman to compound.

Tithes are of a threefold nature,* appropriate, im-
appropriate,

* Appropriate tithes are those, which are annexed to the bishoprick, or other dignitaries, and may be leased for twenty-one years.

propriate, and in the hands of the incumbent. When monastic institutions were at the highest pitch in Ireland, the tithes of several parishes were laid hold on by the abbots, which at the reformation were seized, together with other monastic property, by the crown, and were by Henry the eighth sold to laymen, instead of reverting to the church, to which they naturally belonged; hence the lay impropriate property in tithes.

Beside these impropriate tithes, which really belong to laymen, several clergymen have let their tithes to laymen; so that a considerable proportion of the tithes of the county are at present in the hands of the laity.

It often happens, that the rectorial tithes are in lay hands, and the vicarial tithes in the possession of the church. The rectorial tithes of some parishes belong to the see, and the vicarial to the incumbent, so that it is impossible to give any general rule concerning them. But as composition is the usual method of payment, it will give the best statement of the account, to mention the general amount per acre for each kind of grain, which through the county may, I think, be averaged at about from eight to twelve shillings for winter crops, five to eight shillings for spring crops, four to seven shillings for meadow, and where flax is charged, it is commonly rated at one penny per perch. Sheep and lambs seem to be the only articles, which have remained stationary; the rates are for each ewe and lamb sixpence, and for wethers, if shorn on the premises, three

three or four pence each; if not, tithes is seldom charged for them. A farm is generally considered as worth fifteen shillings more per acre, in the gross, for being *tithe free*, than when subject to it.

Except in two parishes, the above seem to be the average charges. In these two, however, the charges greatly exceed this statement, and are from six to ten shillings for meadow, from twelve to seventeen shillings for spring corn, and from fifteen to twenty shillings for winter. The consequence is, that the parishioners are continually serving notices on the incumbents, to take the tithes in kind, and the incumbents are, in return, demanding tithes of things hitherto untithed in the county, viz. turnips, rape, potatoes, corn-hills, &c.

Tithes have been generally considered as a bar to improvement, but this cannot be the case, when the subject is fairly argued; for who, that calculates property, will not see that, where the improver benefits the rector in one pound, he benefits himself in nine, and, in the usual mode of compounding for tithes, in nineteen, which, I think, is rather too great odds?

There is very little difference in the price charged for very great, and middling crops. Another objection is, that the burden falls upon the most industrious and useful part of the community, the farmers; whilst the drones of agriculture, the graziers, although occupying immense tracts of the choicest lands of the country, are almost totally exempt from tithes. This, I must acknowledge,

knowledge, is a hardship, that calls loudly for redress, and which can only be effected by a reasonable commutation, founded on fair and equitable principles.

Perhaps it would be impossible to strike out such a plan as would please all parties; but whether dissatisfaction arises in a parish or not, should be a matter of indifference, provided the measure was generally adopted on equitable terms. It should be very far, in this scheme of commutation, from curtailing the income of the clergy; but merely to have them paid regularly from some other fund, rather than what arises from the present very obnoxious one of tithes.

Suppose an average was taken of the value of each living for the seven years last past; and that sum equally apportioned, for the same number of years to come, upon every acre in the parish; and so as that it should not fall more heavily on the poor man's small farm, than on the rich man's extensive feeding grounds; this sum to be collected in the same manner as public cess, and paid in to the treasurer of the county, and by him handed over to the clergy. I think they would thus be better paid, and live more at peace (as the ministers of the gospel ought to do) with their flocks, than in the case at present.

To provide for the decrease on the value of money, or the consequent increase on the value of commodity, or in the event of the last seven years average not being considered an equitable rate for the parish to be assessed in,

in, either with respect to the parishioners or the incumbent; in short to let the income of the clergy hold a proportion to the circumstances of the times, a commission should be issued by the bishop of the diocese every seven years; one half of the commissioners should be chosen by the bishop, and the other by the parishioners in vestry, who should re-applot the value of the living, and either advance or lower it, according as circumstances would require. Or suppose a pannel should be struck by both parties, from each of which a certain number should be drawn, as in cases of juries, to be a commission on the subject, whose verdict should be final, as to the value of the living for a certain number of years; that, to prevent vexations, litigations, or frivolous complaints, heavy costs should be awarded against the plaintiff, if cast; and that the defendant, although nonsuited, should be but lightly charged with costs. But as this is a subject, that has employed the thoughts of the wisest men of the state for several ages, I must, lest I should deserve the character of presumption, desist from any further disquisition respecting it; leaving an object of such general importance to be rectified by the wise and judicious arrangement of those, whom it more immediately concerns.

SECT.

SECT. 4. *State of Education, Schools, and Charitable Institutions.*

In this county are two charter-schools; one for fifty boys, and the other for fifty girls. The boys school is at Arddracan, under the immediate inspection of the Bishop of Meath; that of the girls is at Trim, and both are kept in the best possible manner, considering the sum allowed by the Incorporate Society.

Beside these two schools, there is a diocesan school at Trim, and a school handsomely endowed at Navan;* and in every parish the bishop (whose care of, and attention to the morals of every the meanest individual of the diocese is indefatigable) has insisted, in his visitation

* The annual salary, allotted by the late Alderman Preston for the support of this well intended institution, is converted to the individual emolument of the head master, who, as the presentation is vested in the Earl of Ludlow and Lord Tarah, is generally one of the Preston family, without any purpose of the endowment being fulfilled, as the premises are in such a state of repair, as to leave it out of the power of the second master to accommodate students as he could wish. It is a grievous circumstance, that some high officer of the state is not obliged to observe, that the intention of this kind of endowments throughout this part of the empire is not more punctually carried into effect, in order that numbers, who might become luminaries of their country, should no longer remain neglected and unattended to.

tation charge, on the incumbent keeping a Protestant school-master, and paying personal attention to the school, to observe that the master's methods are good, that the principles of the established religion are taught the Protestant children, and that morality, order, regularity, and cleanliness, are impressed on the minds of the pupils of all religious persuasions.

There are several schools kept by private individuals also, for the education of the poor on their own properties, in which many persons, who have afterwards become useful members of society, as clerks, overseers, &c. have been instructed. With such advantages it is but reasonable to expect, that the cloud of ignorance which, I am sorry to say, pervades the present generation of cottiers, will be totally dispersed from the next, and that the rising generation will be found more useful members of the community.

The English language is pretty generally in use throughout the county, and we very seldom meet with any person, who is not capable of speaking it with some degree of fluency; yet, when together, the peasants all converse, and if they have a story to tell, or a complaint to make, they still wish to be heard in Irish; understanding the idioms of that language better than they possibly can those of the English, their story can be conveyed more expressively, and, of course, work more upon the feelings of their auditors; indeed there is no language more copiously supplied with pathetic expressions,

expressions, or more calculated to touch the feelings, than that of the Irish; so much so, that it has become a proverbial expression, "Plead for your life in Irish."

Amongst the charitable institutions, I should not omit that fund left by the late Doctor Sterne, Bishop of Clogher, and Doctor Chetwood, Rector of Ardbraccan, arising from the interest of money, and amounting to eighty pounds per annum, for the purpose of apprenticing children of Protestant parents, inhabitants of this county, to Protestant masters and mistresses in any county. The children must be able to read and write, and say the church catechism. The fee is three pounds to each. Nor the singular bequest of the late Thomas Charleton, Esq. who left 900*l.* per annum for ever (two-thirds of which he directed to be distributed in Meath, and the other third in Longford) in marriage portions of six guineas, to labouring men's sons under thirty, marrying labouring men's daughters under forty, who have resided one year or more, immediately previous to their marriage, in the same parish, and shall have been married with the consent of their parents. I have known a great many persons, who have obtained this portion, and yet, except in two or three instances, I have not seen any good purpose effected by it; it is the characteristic of the lower class of Irish, as well as of those of other countries, to think but little of what they acquire without difficulty. "Easy come, easy go," is their usual maxim; and it
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does not unfrequently happen that, before the fortunate claimant leaves the town where he receives this money, one guinea of it is spent in drink amongst the friends, who congratulate him on his good fortune.

SECT. 5. *Leases.*

IN a country, so far behind the rest of Europe in agricultural improvement as Ireland is, there cannot be a better measure adopted, towards promoting its advancement, than that of the landlords granting good leases to their tenants, and always giving a decided preference to an improving, and totally discountenancing an impoverishing tenant. I am sorry to say, that the contrary is too often the case; and although we have many instances, in this county, of gentlemen letting their grounds to improving tenants, much cheaper than to those of a contrary description, yet the most general practice is to advertise, and take proposals, and prefer the highest bidder, without regard to his character as an improver, but merely as to his ability to pay the rent.

As long as this is the policy of the landlord, he never can expect to behold his estate in an improved condition; for he is a weak politician, who would improve his farm, to make it the greater object for some stranger

stranger to bid for. His policy, therefore, is to calculate, as accurately as possible, how many crops he can have off his ground, so as to repay himself the sowing, rent, &c. and then run them out as close as he can to the expiration of his lease, and thereby leave the farm at that time, if possible, in such a state, as to deter any other person from bidding for it, a policy, I must acknowledge, too often successful. For, although by the printed leases, which are those generally in use, the tenants are bound, "during the continuance of the demise, to preserve, uphold, support, maintain, and keep the said demised premises, and every part thereof, and all improvements made, and to be made thereon, in good and sufficient order, repair, and condition; and at the end of the term, shall yield up the same," &c. &c. yet, because these clauses are not enforced, either from want of a penalty being annexed, or the inability of the farmer to pay that penalty, they are seldom attended to. When a farmer commences under the present system, he has generally to fence his farm all around, as has been already mentioned, and then to build such house and offices as are suitable to his business, and as will last just as long as the term of his lease, but generally tumble either at, or immediately after the expiration. When all this is done, his next care must be to cleanse and drain the ground; for the pill following of the last tenant has run it so wild, that it will take two years fallowing, perhaps three, to ba-

nish the couch-grafs; and the drains, for want of being cleared for the last few years, require to be all opened again, by which time his capital is almost exhausted.

If a farm is out of lease on the first of May, all spring crops pay but the fourth sheaf to the succeeding tenant, at the time of drawing home, in lieu of rent from the first of May to the harvesting. If out at November, all corn, in the ground before that time, is subject to the eighth sheaf as above, and most leases are dated either from the first of May, or the first of November.

I have heard of a gentleman in the county of Fermanagh, who lets his lands for thirty-one years, and binds himself, by a clause in the lease, to renew at the end of that term to the tenant in possession; the rent to be ascertained by two understanding men, one chosen by each party, without taking into consideration any improvement made by the tenant, but merely the rise upon land; these men, in case of a disagreement in opinion, shall have power to call in an umpire, whose decision shall be binding between the parties; and in the same way after the second, and at the expiration of each thirty-one years, for ever to be so renewed.

By these means his estate is one of the best improved in that country, and he benefits by the rise upon land, in exactly the same proportion, perhaps in a greater, than if the lease was to expire as usual, and the land be re-set to the highest bidder; not to mention
the

the satisfaction he must enjoy at seeing his estate cultivated in the highest degree, and not in the hands of a set of miserable farmers, who would but suck the vitals from the earth, and then leave it in a state of wretchedness hardly to be conceived.

The leases, that have been given until these few years, were for thirty-one years, or three lives; of late, however, the most usual term is twenty-one years, to which a life is added, in order to qualify the occupier to a vote.

Some tenants are bound, in heavy penalties, to lay down a certain proportion, and some the whole of their land, under grass-feeds, the last three years of their lease. The late Earl of Bective, and some few others in the county, have clauses of non-alienation in their leases, under penalty of forfeiture, without leave in writing from the proprietor. Gustavus Lambart, Esq. has reserved to himself, in all leases granted by him, the power of repossessing, at any time during the term, any part of each farm, not exceeding four acres, for the sole purpose of planting; he must, however, allow the tenant the value of the land so planted. He has also clauses of non-alienation in all his leases, without consent under his hand and seal. Clauses of surrender and reassumption are to be met with in leases, but not frequently.

Some few years since it was an easy matter to get a long lease; but the late sudden rise upon lands has

made gentlemen more cautious how they part with their grounds for a long term; so that a perpetuity, even of a small spot, where a man might, by building, establish himself, is hardly possible to be obtained, nor are comfortable buildings erected for tenants by the landlords. I do not know a better policy the proprietor of an estate could adopt for the increase of his property (next to building good farm houses), than to divide his ground into farms, and give the tenant a clause of renewal for ever of a certain proportion of it, provided he would, within a limited space of time, expend a certain sum of money in building a dwelling-house, offices, &c. suitable to the size of the farm: the remainder of the land to be held only so long as at first agreed upon. At the expiration of the term, this same farm would be of more value to the possessor of the farm-house, than it could be to any other person, from its being convenient to his residence, and he would give more than its real value for it, rather than let a stranger get possession of his holding. In case the landlord and tenant could not agree for a renewal, the tenant should part with the house, upon the full value of his improvements being given him.

There are a good many leases held under the church, such as the fee lands of Meath, and those grounds belonging to the archdeaconry; some under Trinity College, and some under corporate bodies. These are generally let for twenty-one years, and the
leases

leases surrendered and renewed yearly, the tenant paying a fine, so that he may be said to enjoy a perpetuity. Renewal fines have of late, however, been a good deal raised; and in some instances the leases are suffered to revert, from perhaps a trifling disagreement about the renewal fine, or the desire (as in the case of the late Bishop of Meath) of enlarging and improving a demesne. The value of these leases varies a good deal, according to their local advantages, but they are generally estimated at twelve or fourteen years purchase. The rents are made payable quarterly, that, in the event of translation or removal, the quitting possessor may receive as much emolument as possible; yet they are seldom called for more than twice a year, and the rents due at May are not paid until the December, nor those due at November until the June following, according to the custom of the country with respect to other sorts of property.

There is a plan of a lease noticed in the Agricultural Survey of Aberdeenshire, drawn by the late Lord Kaims, and improved by Doctor Anderson, which I think well worth the perusal and consideration of persons about to let grounds. In it is included every clause, that can be necessary for the improvement of the country, and the interest of both landlord and tenant is equally and mutually observed.

SECT.

SECT. 6. *Expence and profit.*

THE expence and profit of a farm is a subject very difficult to arrive at the knowledge of, as it frequently happens, that the occupier himself cannot ascertain it with precision; this must differ materially, according to the weather, or judgment of the proprietor, the rent he pays, or the quality of his ground.

If the farmer is a man of capital, (and I am sorry to say the generality of the men styled farmers in this county are not) he by manuring, liming, sowing clover, &c. can continually refresh his land, and keep it in a state of fertility, quite out of the reach of the common farmer, pinched as he generally is by poverty; of course, his profits must be greater, although his expences will be greater also; the general idea is, that a farm, let for the fair value, should pay three rents, one for the landlord, another for the expences attending the cultivation and improvements, and the third for the taxes and clear profit to the farmer. I am convinced, that one rent will never pay the expences, including ploughing, sowing, feed, harvesting, marketing, threshing, wear and tear of machinery, horses, &c. yet I think, by taking a little from the profits arising to the farmer,

farmer, we may approach nearer the truth.* Suppose one hundred acres let for one pound five shillings per acre, the account then will stand thus :—

	£.	s.	d.
Landlord,	125	0	0
Expence of tillage, five quarters rent,	156	0	0
Church cess at 3d. per acre,	£.1	5	0
Two public cesses at 3s. per acre,	15	0	0
Tithe, at 2s. per acre,	10	0	0
Hearths, lights, &c.	2	0	0
Interest on capital employed			
£.200 at 5 per cent.	10	0	0
		38	5
Clear profit to the farmer,	55	15	0
	£.375	0	0

Near

* Mr. Brab. Morris thinks the tenant ought to make four rents, one for the landlord, one for clear profit, and two for expence, taxes, improvements, &c.; taking this for a general rule, the account would stand thus. The area of the county contains 327,900 acres, from which, if we deduct 27,900 acres, for bogs, wastes, &c. which is thought sufficient, there remain 300,000 acres; this at £.1, 5s. gives the annual produce of the county, which amounts to £ 375,000

If we multiply this by 4, we have the annual value of the produce of the earth £.1,500,000

To

Near 28 per cent. on the capital, which, with a plough farmer, is generally forty shillings per acre for each acre in his farm.

Large farms in the hands of gentlemen are generally grazed, because their land is not so subject to speculation as when farmed. It is the received opinion, and I believe that opinion is founded in justice, that, if a man is not constantly after his business, or, technically speaking, at the tail of his plough, he never will make any thing by tillage & labourers and servants are a considerable drawback on the profits; and the constant watch a man must keep, to prevent his substance being wasted, or stolen by every person who is employed in the concerns, renders it an unfit occupation for a gentleman, whose property enables him to live more at ease, and who could not, if he would, or would not, if he could, pay that attention requisite to make the most of a plough farm. The grazier's profit, beside being less subject to speculation, has been from the beginning of the war (except for these two last years of, I may say, famine) greater than the farmer's; and many farms, which were before that time tilled, had been laid down under

To be thus disposed of,

To the landlords	£.375,000
Profit to the occupiers	375,000
Expence of tillage, improvement, taxes, and interest on the capital employed	750,000
	<hr/> £.1,500,000

under grass; but the high price of corn, for these two last years, has prompted numbers to re-embark in tillage to a considerable extent; from which it is generally believed, that there is more ground employed in this manner at the present time, than at any period for fifty years past. When a farm is grazed, the expences are much lighter, and though it owes considerably more in interest on the capital employed in stock, yet this interest does not in any degree equal the expence of the labourers, horses, &c. which the husbandman must continually employ, which are constantly deducting from his profits. The capital necessary for a grazing farm is most commonly from four to five pounds per acre, and although we find a number of farms kept under stock, on a comparatively smaller capital, yet there are many, on which a much larger is employed. The man, who judiciously expends most money on his farm, is most amply repaid; his profits far exceed the interest on the additional expenditure; however it is the general opinion, that the occupier should be satisfied with a clear profit of one pound for every acre, after paying rent, taxes, &c. that is, valuing the ground at what it would let for to a good tenant, not what he himself pays, that being in some instances as much under the value, as in others it is exorbitantly dear. Mr. Morris thinks the farmer should make nearly double the profits of the grazier, to compensate him for the reduction in point of strength, which his land

land suffers by the present mode of farming; but this argument will not, it is presumed, hold good in a few years hence, when a proper rotation of crops is established throughout the county. The ignorant farmer is generally the most timid, and cultivates his land at the least possible expence; of course, his grounds produce but badly, and are diminishing in strength yearly, whereas the spirited occupier is continually adding manure, and refreshing his land, which consequently advances in a state of progressive improvement; at least its quality is not diminished, and in the interim it pours, through the channel of abundant crops, an influx of wealth into the lap of the occupier.

In this class of spirited farmers I do not include gentlemen, who hold small portions of land in their own hands, merely for their amusement, and who have but a very inconsiderable practical knowledge of farming, expending their money more through whim, and to please themselves, than from any desire of gain; and who may be very well content, if they do not pay too dearly for that entertainment; yet from persons so circumstanced we should principally expect to derive the result of new experiments; for it is absurd to suppose, that the farmer, on whose annual crops, and personal efforts, the support of his family depends, should hazard an experiment, the consequence of which may be his ruin; still it must be remembered, that trials of this
kind,

kind, whether successful or otherwise, are ultimately productive of general advantage.

Upon the whole, it appears pretty evident, that society is much more benefited by a cultivation carried on with spirit, than when penury is a check upon exertion, as thereby the greater produce is returned for man's consumption, the poor are more employed, and the grounds kept in a continual state of fertility.

CHAP.

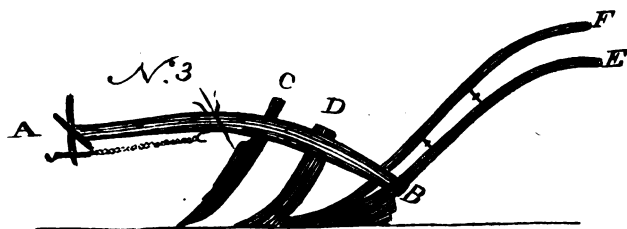
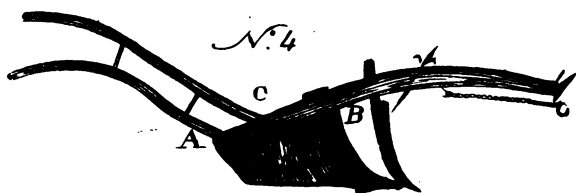
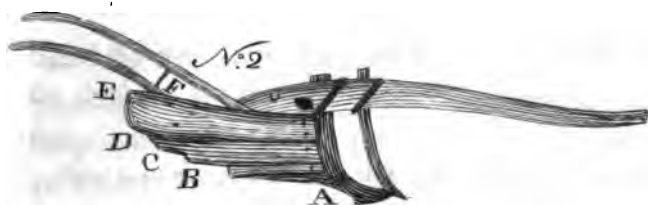
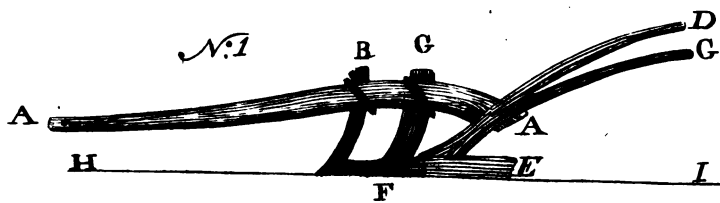
CHAP. V.

NATURE AND USE OF IMPLEMENTS OF HUSBANDRY.

THE plough used heretofore throughout this county, appears to a stranger a most unwieldy and heavy implement; yet I must acknowledge it is well adapted to the nature of the soil, and is generally known by the name of the Meath plough. In spring it is invariably drawn by four horses, both on the light and heavy soils, and generally ploughs from half an acre to three quarters per day, and in summer, in the cross ploughing of fallows, which is called the *gorrowing*, it is drawn by six; farming on such terms is extremely expensive, To those, who have not had opportunities of examining this plough, the following may serve to give some general idea.

No. 1. in the plate, represents the framing of the plough, which

			<i>Ft. In.</i>
From the beam point A	to the beam end A	is	9 0
From	- do. to the coulter	B	6 0
Ditto	- do. to the cross	C	7 6
Ditto	- do. to the handle point D		13 0
			From



			<i>Ft. In.</i>
From	-	F to - C	2 6
From the base line	H	to the beam point A	1 0
Ditto	-	I to the handle point D	3 6
		D betw. the handles to G	3 0
Length of the sole	E	connected to the cross F	1 6

This keeps the plough steady in the ground.

It is drawn from two hooks on the beam point, represented by four dots, to each of which a pair of horses is yoked; when drawn by six horses in summer, the third pair are yoked to the middle horses swingle-tree.

No. 2. in the plate, shews the shell board, so called in this country, which is composed of three pieces, fastened to the cross and handle by wooden pins; the lowest is very small, and runs into the share, which is invariably made of cast iron; the next is somewhat broader and longer, and projects farther in width; the third is considerably the broadest, viz:—

			<i>Ft. In.</i>
From the cross at the end of the share A to			
		the end of the riest B is	2 6
Ditto to the end of the spall	-	- C	2 9
Ditto to the lowest point of mould board	D		3 0
Ditto to the end of mould board	-	E	3 4
From the end of the shell board E to the out-			
		side of the left handle at F	2 6

The width here adds very much to the draught, yet it serves to turn over the mould better, and for summer

summer ploughing an additional board is generally nailed to the outside, to make it cast up the clay higher, and when this is the case, six horses or oxen are used in the yoke.

From the outside of the riest or rest B, to the outside of the sole, marked in Fig. 1. E, is 12 inches; so that the plough leaves a track 12 inches wide each turn.

The length of the cross under the beam is from 18 to 22 inches, according to the depth of the soil; when laid on the ground, and a line struck from the point of the beam to the left handle of the plough, the share points into land, and forms an angle of about five degrees, and when drawing the side of the share is foremost, instead of the point, adding considerably to the draught; its inclination is generally so much inland, that it is held on the left handle, by which means the share does not lie flat on the ground, but runs on its side, leaving the under surface, if all the loose clay was removed, cut into ridges, somewhat resembling the letter V, or rather its transverse section, resembling the teeth of a saw: to obviate which, and that no part of the earth should be left untilled, cross ploughing was introduced, and took the name of *gorrowing*, either from the word *garr*, which, in Irish, signifies to cut, or from *gorrbu*, which signifies coarse, as the earth in that work, called *gorrowing*, is commonly thrown up as coarsely, and as full of lumps as possible, to admit the sun and air more freely through it. The Mid-Lothian plough,

plough, drawn by two horses, and entirely managed by the person who holds it, having a rein from the outside of each horse, connected with a bit, while the horses heads are made fast, by a small strap, to each other, was lately introduced at Collon, by the Right Hon. John Foster, and thence to the neighbourhood of Navan within the last year, and has been so very much approved of by almost every person, who has given it a fair trial, (particularly those, who have grounds without many stones, or who have gone to the expence of hiring a person, who understands the management) that I think it likely in time to supplant the old Meath plough in many of its purposes. I employ it for every ploughing, except the summer gorrowing. Mr. Codd of Navan, who has an excellent Scotch ploughman, uses it even in this work; his man both drives the horses and holds the plough himself, even when drawn by three, perhaps four horses. The framing of the plough is represented in the plate No. 3.

	<i>Ft. In.</i>
Its beam length from - - A to B is	6 0
From the beam point A to the coulter at C	4 0
Ditto the cross at - - - D	4 11
Ditto to the left handle point at - E	10 0
From base line, to the beam point - A	2 0
From ditto to the handle point at - E	3 0
Width from - - - - E to F	2 0

No. 4, shews the shell board, which together with the cross is made of cast iron, and is

From

Ft. In.

From the top of the shell at A, to the top of	
the shell at B	2 6
From the base line, to the top of the shell at A	1 2
Ditto to the beam at B	1 7
Width from the top of the shell at A, to the	
outside of the handle at C	1 6
Width at the bottom,	0 10

This plough, when brought into more general use, will enable the farmer to plough double the number of acres he was formerly capable of doing, with a given number of horses. For though the common farmers are, for the most part, reluctant to embrace any new plan of husbandry, and generally brand it with the name of innovation, yet make them once sensible of its utility, and they may be persuaded to adopt it: many of them are so wedded to the old opinions, that, rather than acknowledge the superiority of the new system over the old, they will not even listen to its advantages, nor open their eyes to its beneficial effects.

Any implement of husbandry, that lessens the farmer's expence, must tend also to reduce the price of provision to the poor, and its adoption should become an object for the attention of the legislature. What greater retrenchment can possibly be expected by the farmer in one branch of his business, than reducing his expence, in the article of ploughing, nearly one-half, which

which is the effect produced by the introduction of the Scotch plough?

I have heard this plough objected to by persons, who could not deny its beneficial effects, because that, although it was drawn by two horses, yet these two horses must be very strong; and that the expence of the machine is so great (four guineas), that they are out of the reach of the common farmer.

To the first objection I will answer, that it is much easier to take care of, and feed two good, than four bad horses; and as to the objection of expence, I will only beg of the farmer, so objecting, to sell two of his horses from his old team; they must be bad indeed, if they do not pay for one plough: here then is the keeping of two horses saved.

I am, and have been, since I first saw the Scotch plough, a very great advocate for its being generally adopted; yet I confess that in this country there are many soils, in which it will not answer for the summer's gorrying.

Until we can find the soil of a country universally the same, we cannot expect any instrument of general effect; even the Meath plough, so much the boast of our farmers, will not gorry without being altered, and without the introduction of an additional pair of horses; make that alteration in the Scotch plough, and add another pair of horses, and, I will answer for it,
I they

they can plough as deep with four, as the Meath plough with six horses.

As the adoption of every improved machine must depend, in a great measure, on the person who has the conducting of it, care should be taken, on its introduction that, at the first using of them in his work, the farmer should have a man well skilled in their management and use. The having a part of a machine go out of order, while the conductor is incapable of setting it to rights again, immediately condemns it, and prevents a trial of it by some other person; who, perhaps, before that was inclined to adopt its use. Old ploughmen are very much averse to the Scotch plough, and they therefore throw every obstacle in its way; for which reason it is preferable to teach some person, who is not wedded to any particular practice, than instruct an old ploughman, whom you must first break of his partiality for the instrument, to which he is accustomed; before you can expect to instil into him a love for the new: perhaps, too, his son has been the driver upon the old system, in which case little is to be expected from the father's exertions, as the greater degree of perfection, to which he brings the Scotch plough, the farther will his son be from employment. This is a natural effect, to obviate which, I would allow the holder of the Scotch plough, in addition to his own, half the amount of the driver's wages, perhaps more, rather than not have the machine brought to that

that perfection, working my grounds, to which I know it has arrived elsewhere. This plan has been pursued by Doctor Beaufort, at Collon, with such success, that his ploughman has obtained several premiums at the different ploughing matches, and one this last summer, with a pair of bullocks, which he drove with bits in their mouths, and which they obeyed as regularly as horses would have done. J. M. Grainger,* of Causestown, and Doctor Beaufort, of Collon, are the only gentlemen, as far as I can learn, who have introduced Mr. Cooke's patent drill machine into this county, although several have gone so far in the use of the new machines, as the cultivator, and skuffler; several gentlemen, however, have agreed as to its utility, who, if the difficulty of procuring them was not so great, would adopt them.

Drill machines cannot be had in this country complete for less than twenty guineas, including the freight, notwithstanding which I think, in some time they will come more generally into use.

1 2

A plough,

* I was present lately when Mr. Grainger was horse-hoeing his wheat, which was sown with the machine, at the rate of ten stone the acre. I never saw a more luxuriant crop, far exceeding some in the same field, sown broad-cast with twenty stone per acre, and in every other respect treated alike.

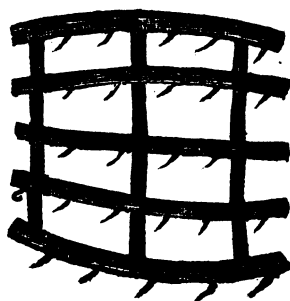
The horse-hoe executed its business very well, and Mr. Grainger's men have become very expert in its use, although this is the first season for trial.

A plough, somewhat resembling the Meath plough, has been introduced in the neighbourhood of Slane and Navan this last year, drawn by two or three horses for spring ploughing, which is much liked by those, who have tried it; the beam is short, and the angle, which the mould-board makes by its junction to the cross, is more acute than in the Meath plough; it is, besides, made at a very inconsiderable expence, which is the principal reason why so many of them have been made. The mould-board not being of metal, occasions a greater degree of friction, which renders three horses generally necessary.

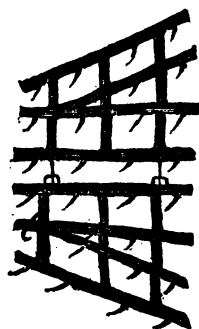
These, with some trifling alterations, are the only ploughs in use in the county, although I have been told, that the Leicester wheel-plough was introduced here by Doctor H. Maxwell, late Bishop of Meath, some years since; but it was found incapable of going sufficiently deep, and, of course, being thought useless was discarded. The double shell-board plough, for landing drilled potatoes, rape, &c. is in common use wherever drilling is practised.

The harrows are the same as those commonly used throughout Ireland; the large one, drawn by four horses, is that used for cross-harrowing fallows in summer, shewn in the plate No. 5. Mr. Morris has introduced into his double harrow another bull, and a pair of hinges dividing it in the middle; this practice, however, I have heard reprobated by other farmers, as it lessens

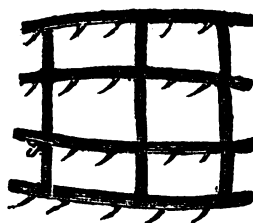
N^o 5



N^o 6



N^o 7



N^o 8



lessens the specific gravity, not more than half the weight of the harrow being in any one point at the same time, and prevents its reducing the soil as quickly as it would, if the harrow was undivided; and he acknowledges that, except in uneven ground, the harrow without the joint is more efficacious.

There are several kinds of sowing harrows; those most commonly used, however, are represented in the plate, No. 6 and 7. Mr. Codd's Scotchman has brought into use single horse-harrows, three of which he himself drives at one and the same time, linked together, and he asserts they will do as much work, and as well, as three of the common harrows, drawn by two horses each.

Horse-rakes are used but by two or three people in the county, and the spring teeth-rakes by fewer.

Mr. Fay has a waggon which was built in England, and, with the exception of Mr. Connolly's, of Newhaggard, it is the only one in the county.

Single and two-horse carts are frequent; but the most usual machine for carriage is the common car, which, if properly balanced, is well adapted to the farmer's use; a good horse being able to draw, on one of these cars, when properly harnessed, from eight to thirteen, some fifteen cwt.; and their original cost being so very small (about three guineas), renders them the fitter implement for our common farmers, who are seldom overburdened with cash. The common car could

be

be rendered of much more general use, and more easily drawn, were the shafts more in a parallel direction, both in respect to each other, and to the line of draught, in which they are generally formed, which cannot be well effected, while the diameter of the wheel is so small as at present; besides, the axletree and the wheels are made fast to each other, whereas the axletree should be a fixed centre, and the wheels move with boxes.

I should not here omit mentioning a very great improvement in the construction of the single-horse cart of this country, introduced by Sir James Foulis, Bart. who brought the model of it, together with that of the Glasgow carrier's cart, from Scotland, both of which are admirably adapted to carry heavy loads with great facility; one horse being equal to draw ten barrels of oats ($17\frac{1}{2}$ cwt.) with ease to himself. Sir James says, that in Scotland they frequently put a ton and a half on each horse. In one of those carts the wheels are of such diameter, that a line, drawn from the centre of motion in the draught, gives the position of the shafts, which, when the horse is yoked, are nearly parallel to the surface, on which the machine rolls; the shafts are likewise parallel to each other, and the connecting staples of the yoke are on the outside of the shafts; thus the power is made to operate in right lines, the angle formed by a radius of the wheel, when perpendicular

dicular to the surface on which it rolls, formed with the shafts, being a right angle.

Winnowing machines, worked by hand, are finding their way to the farmer's barn; I think within these two last years there cannot have been fewer than twenty brought into the county, by farmers holding from one to two hundred acres; the more extensive farmers have had them a long time since.

Wheel-barrow, spades, shovels, pitchforks, &c. are in common use as in other parts of the kingdom. As every mechanical contrivance, that can tend to lessen the labour, and, consequently, the expence of the husbandman, may justly be deemed an improvement, by reducing the taxes on agriculture, so the invention and introduction into this county of the threshing-mills may be reckoned of the greatest importance to the extensive farmer. These have been partially in use these ten or twelve years back; Brabazon Morris, Esq. and his brother were the first who introduced them. On these machines, and on all those made subsequent, considerable improvements have been adopted. William Morris, Esq. threshes with his machine (which is reckoned the best *horse-mill* in the county) from fifteen to twenty-five barrels of wheat per day. The attendance necessary is five men, one boy, and four horses. When the corn threshed is winnowed at the same time, it requires somewhat more attendance, but the same power answers.

Mr.

Mr. Patrick Murphy, of Navan, has brought all his water machinery to the highest perfection of any man in the county. On his farm of Ardmulchan he has built a threshing machine, worked by water, capable of threshing and cleaning effectually more corn of every kind, than any other machine that I have heard of. A water-wheel is always to be preferred to a horse-wheel for work of any kind, as the motion is so much more regular, and regularity in motion is the soul of machinery. This is the only threshing-mill in the county worked by water. Beside these, there are about eight threshing-mills already erected, and many others are in contemplation. Couch-harrows are used by many, upon several constructions, and a spike-roller by Mr. Morris. Land-rollers, both of stone, wood, and metal, are used; the most common kind, however, are composed of one solid block of wood. I last year made a wooden roller, the excellence of which is, that it can be used in light or in heavy grounds with equal effect. The cylinder is eight feet long, and moves upon its axis, and is divided in two parts for the ease of turning at the headland; the diameter of the cylinder is three feet four inches, and each half is composed of three round pieces of timber, like the dishes of car-wheels, set perpendicularly parallel to each other, and sheeted round with plank of one or two inches scantling, and hooped with four strong hoops. This double
cylinder

cylinder is then set in a frame, with three shafts, for two horses drawing abreast, to prevent their track being too much in one place; on this frame is a box, to hold any weight of sand, &c. that may be thought necessary to add to the weight of the cylinder, according to the nature of the soil to be rolled. This machine was made in Kells, the expence about eight guineas; a cylinder of this extent might be made to fit a common car occasionally, which, except in extensive works, would answer perfectly well.

The principal objection to the roller, whose cylinder is metal, is, that it cannot be made light enough for clay grounds. I use a harrow, the plan of which I got from Captain Rawson, of the county of Kildare, which is called by him the slicer; but instead of having the pins stationary, as with him, I let mine turn round in the harrow-bull, the tail, like a rudder, always keeping behind the draught. The frame of it is made of wood, exactly like the four-horse harrow already described in the plate, No. 5; but the pins are made of flat iron, and edged with steel. Its uses are for the purpose of reducing the fods of a tough lea, or the clods of a stiff summer fallow on clay grounds. The common harrow is liable to be lifted up by the stiff lumps, or tough fods, and joggled off the work; but the slicer, from the sharpness of the pins on the edge, and oblique direction, cuts its way smoothly through
every

every obstruction, except some very hard resisting substance, such as a stone, intervenes; and then, if the pin is permitted to work in the bull, it will go on one side of it, but, if tight, it will hop over as the old harrow usually does. A section of this harrow is shewn in the plate, No. 8.

CHAP.

CHAP. VI.

ENCLOSING, FENCES, GATES, &c.

THE quantity of waste land in this county is extremely small, perhaps not amounting, in the whole, to more than fifteen hundred acres, exclusive of bogs.

The commons are, in general, belonging to corporate towns, and, except in one or two instances, inclosed for the use of the members of the corporation. The burgesses and freemen of Kells have each a lot of ground on the commons or hill of Lloyd, which they may till as they please for four years, after which they must lay it down with grass-seeds, and then a lot is given them in another part of the common. Together with this quantity of ground, they have a right of pasture in common, on this land so laid down, for a certain number of cattle, according to their standing in the corporation; three yearling calves, or one yearling and a two-year-old, being considered equal to one beast. There is a part of this common, containing about one hundred acres, which has not hitherto been inclosed,

inclosed, but I understand the corporation mean to inclose and improve it forthwith.

The commons of Trim are very extensive, but they are divided into lots of a certain number of acres; each lot is given to a burgess during his life, and his representative enjoys it for three years from the next Michaelmas after his death; so that it frequently happens, that the widow or representative enjoys it for near four years from the decease of the burgess; after which the burgess next in seniority, unpossessed of a lot, gets it, and enjoys it during his life, and so on. These commons are the best managed of any in the county, as each possessor has a life interest in his holding.

The commons of Navan are the worst regulated of any grounds of this description in the county, and, I am sorry to say, are a receptacle for vagabonds from all quarters. There is little or no restriction on any person, who likes to build a cabin, and inclose a garden on these commons; the consequence is, that more robberies have been committed, by persons living in that quarter, than in any other district of the county; robbers from every direction finding there a secure refuge, and place of concealment.

Persons holding the circumjacent grounds encroach, also, by enclosing small parcels of common, which, at the end of their lease, is measured in with the farm,
and

and the old boundary being defaced, a new patch is enclosed for a garden, and so on.

The proprietors of the surrounding estate, it may be supposed, are not at all disposed to call in question the right of these enclosures; and, as "every body's business is nobody's business," so no person disputes the title of those marauders.

It would be well for the country, if the whole of the commons were enclosed,* and let for the benefit of some public charity, suppose a house of industry, for the barony, in which the commons lie: with very little assistance from the county, and the profits of these commons, I am confident the barony would support their own poor in comfort, and in the habits of industry; and the idea of such an establishment would prevent many idly inclined persons from walking about begging, who at present have no other way of maintaining themselves. There are some other commons of small extent, that might be turned to some public account in the same manner, under proper regulations.

There is hardly any part of the county of Meath, occupied by farmers holding fifty acres and under that quantity, that can be said to be well fenced; those cuts, which they term ditches, being seldom sufficient for any other purpose, than merely to mark the boundary

* Some years ago forty acres of this common were allotted for a glebe, but never enclosed; the grant is now, however, about to be claimed by the Rev. Doctor Beaufort.

dary of each man's land : but on those grounds, where fences may be said to exist, they chiefly consist of quickset hedges, with deep ditches, from five to seven feet wide, and about the same depth. That termed a statute ditch, is six feet wide, and five deep; the width is measured from the bank under the quick to the opposite bank; both back and gripe are paid for by the person, who holds the land, on which the back of the ditch lies; when a drain is the meaning, one-half of it is measured on each.

Persons, who pay attention either to the appearance or utility of their hedges, generally scour their ditches every fifteen or twenty years, at which time they are plashed and laid, and sometimes cut quite down, after which they spring up with double vigour. The time for cutting down thorn hedges, or any kind of trees that stools, or throws up shoots from the old root, should be that, when the juices are mostly down in the root. Strict attention in this particular has a greater influence on their future prosperity, than people are generally aware. The flux and reflux of the vegetable juices, to and from the roots of trees, is as necessary to vegetable, as blood is to animal existence. They recede to the root in winter, keep it warm, and shield it from the cold; and in the spring and summer season they flow to the trunk and branches in a much greater proportion, force out fresh buds, leaves, and fruits, and, by their refreshing damp, prevent the scorching heat
of

of the sap from destroying the tree, which is invariably the case when, either through design or accident, the bark (between which and the timber is placed the channel, that conducts the sap to every part of the tree) is stripped from the trunk. If, therefore, the flux and reflux of these juices are necessary to the existence of trees; it follows, that to cut trees down, when the sap is up, is to destroy them: the roots, deprived of the sap they are accustomed to receive from the trunk in autumn, are chilled, and become unable to push forth fresh shoots, and, from having exhausted themselves the preceding season, die. Some cut the full-grown hedges down to a particular height, and then keep them clipped annually; whilst others, after having cut them down close, let them grow, clipping the face perpendicularly, until they arrive at a certain height, after which they clip their top.

When a hedge is plashed, there is little or no attention paid to the mode, in which it is cut; the operator, having the work by task, gets on as expeditiously as possible; regardless of the future prosperity of the quick, he hacks and wounds it with a blunt instrument, leaving the standing stem, as if he wished it to receive as much water as possible; this is generally the case, and the water, so received, sinks to the root, and in time rots it. If the owner of the hedge would pay a little attention to the cutting, and supply his workman with sharp tools if the hedge is to be laid, or a
good

good saw if to be cut down, he would find it turn to his account in the end. The direction of the cut, in laying, should be upward; in which case the upper half of the quick would always form a shield to the spreading stem, to secure it from the rain, and prevent it sinking into and rotting the roots, which must invariably happen when split and exposed, as in the common way. When cut with the saw, the direction should be also slanting, to cast the rain-drop the easier.

I saw a hedge belonging to Lord Belmore at Castle-coole, which had been plashed and laid, and it formed the strongest possible fence. A couple of spits were first taken off the top of the back of the ditch, after which all the side-branches and the head were taken from the standing quicks, and each standing quick then got a cut of a plashing-hook, directed upwards, pretty close to the ground; the quick was then bent, and laid up against the back of the ditch diagonally, and fastened with hook-pegs, driven into the ditch. The tops of the quick were laid on the top of the ditch, whence the two spits had been taken, and the ditch backed up again. In a couple of years the shoots from these stems were innumerable, and, from the stems being laid diagonally, they opposed an impenetrable barrier against the hogs, and other small trespassers, that might have found a passage between the rows of shoots, if the stems had been placed straight across the ditch. I don't

don't recollect ever to have seen a better, or more beautiful fence.

Hedges are considered by some as a bar to the fattening of cattle, on account of their being an harbour for flies, and checking the circulation of the free air. They consider, that a given number of acres, suppose forty, will feed more cattle to fat in one field, than when divided into four fields of ten acres each; but this opinion is disputed by others, who as firmly assert, that hedge shelter is not only conducive to the fattening of beasts, but absolutely necessary in those farms where good land shelter cannot be had, particularly in winter. Experience shews us, that the best sheltered farms (if the enclosures are not so small as to prevent the free circulation of air) produce the earliest grass, of course the earliest beef, which pays the grazier much better than that, which comes late to market, and ought to be his first object.

When a grazier of this country gets a farm into his hands, he fences and divides it, so as to produce the greatest shelter in the shortest time; for in the months of November and December we generally experience heavy rains, accompanied with high winds, which tend considerably to lessen the quantity of fat in black cattle, if they have not shelter to preserve them from its unfriendly effects; and the strongest proof, that shelter is grateful to them, is, that beasts lie most frequently close to the best sheltered ditches. Land shelter is by

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some

some preferred, but as this is not attainable on every farm, hedge shelter must be substituted. One of the greatest advantages, independent of the goodness of the soil, in the description of a farm, is, that it is well sheltered. When a ditch is made anew, the usual practice is to lay two sods on their face, about six inches in on the sward, to form, when finished, a bench to receive the clay, crumbled by succeeding frosts; over which is put about six inches of clay, and on this the thorn quick is laid, and the first and second spits of the earth (being the best) thrown immediately round their roots; the remainder of the clay is then dug, and thrown behind, and the stuff taken from the bottom of the ditch is kept for topping and facing, being considered the strongest, and not so subject to moulder down by the frosts. Many sow furze-seed in drills on the backs of the ditches, which grows up, and protects the growing thorn quick from being nipped by cattle, and this is considered an excellent practice. Hay-seed is often sown in the face of ditches likely to be much affected by frost, which makes them tough, and is not considered to injure the growth of the quick. The strongest quicks, although the dearest at first, are considered the cheapest in the end, as they grow up with and protect the ash, elm, &c. planted along with them, a practice more generally followed than heretofore.

The

The quicks are all laid sloping, to conduct the atmospheric moisture to the root of the plant. In about ten or twelve years from the first making, the hedge is either cut down, and the ditch scoured, or plashed and laid; the stuff taken from the bottom of the gripe is either put out as manure, or laid on the top of the ditch.

There is no method the farmer can take, to improve the appearance of the country more expeditiously, and at the same time with so little expence to himself, as by planting hedgerows. A farm well planted in this way looks, at a little distance, as if it was well wooded, and I have heard it asserted by persons extremely well versed on the subject, that if a farm was surrounded by a double ditch, enclosing twenty-one feet between the edge of one gripe and the edge of the other, and this double ditch planted with four rows of ash, elm, or sycamore, and registered, that at the end of thirty-one years, the usual term of our present leases, the timber would pay the fee simple of the ground so enclosed. Ash is objected to by many, from the mischief it does by its widely extended roots, impoverishing the earth to a great distance on every side. Its leaves too are considered by some, as little less destructive than the roots; some object to planting any kind of timber trees whatsoever in hedges, and assert, that they injure the hedge, in which they are planted, by their dropping in wet weather. This, however, I am inclined to doubt,

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from

from my own observation, as I have not seen finer hedges any where than at Allentown, Gibstown, Ardbraccan, Johnstown, Kingstown, &c. in each of which farms there are uncommonly fine rows of timber trees, growing in the hedges.

I should imagine, that want of protection from the depredations of the billhook is more frequently the cause of ill thriven hedges, than the dropping of the timber trees, the impoverishment of the soil by their roots, or any cause whatsoever attributable to them.

There are very few walled fences to be met with in this county. In the baronies of Demifore, and Lower Kells, are stone-faced ditches, but few fences, that might be termed walls, and except for the purpose of enclosing a park for deer, bulls, rams, &c. the ditch is considered the better fence, both on account of its cheapness and durability. Walls are allowed, indeed, to have the advantage, of occupying a less space of ground, of being better shelter for cattle in winter, and of forming a stronger fence against sportsmen and trespassers of every description; but then, on the other hand, they are far more expensive at first; they seldom last long, particularly if built dry, which is the common mode of wall-fencing. They do not afford any shelter to cattle in summer, from the scorching rays of the sun, and when they begin to fail, they are a continual source of torment and expence to the owner; every day makes a new breach, which must be renewed,

ed, until at last there are few remains of the old wall to be seen.

I should not omit mentioning here the wall round the demesne of Headfort, built by the late Earl of Beftive, enclosing an area, as I am informed, of from twelve to fifteen hundred Irish acres; it is twelve feet high, and built in the best manner, being grouted throughout, and neatly coped with small round stones. The demesne of Summerhill too is enclosed with a very high wall, as is also the demesne of Stackallen, the seat of Lord Boyne, and Beauparc the seat of Gustavus Lambart, Esq. together with a few more.

Ditches are cheap in their original formation; they afford good shelter for cattle, are easily repaired, drain the ground, and are a continual source of manure, affording either limestone gravel or mud; and they supply the farmer annually with a certain proportion of fuel from the plashing, and timber for the purposes of husbandry. The hedgerows give an appearance of comfort to the farm, on which they grow, and enrich and beautify the face of the country. The comparative expence of the two fences may be thus rated.

Ditch.

Ditch.

£. s. d.

To sinking a ditch five feet deep, six feet wide at top, and eighteen inches wide at bottom, per perch of twenty-one feet, - - -	0	2	6
Strong thorn quicks for ditto, sixty, at 5s. 5d. per thousand, - - - - -	0	0	3
Ash quicks four years old, three at one penny each, - - - - -	0	0	3
Weeding ditto, at 2d. per perch for three years, - - -	0	0	6

 £. 0 3 6
Wall fence.

To quarrying five car-loads of stones, six cwt. each load, at 2d. per load, - - -	0	0	10
Mason work, - - - - -	0	1	1
Attendance, - - - - -	0	0	5
	0	2	4
			5

A wall five feet high, two feet broad in bot- tom, and eighteen inches at the top, has five perches of work, running measure, - - -	0	11	8
If lime and sand is used, 2s. 2d. per perch must be added, - - - - -	0	10	10

The amount of one perch of a wall five feet high, - - - - -	£. 1	2	6
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allowing

allowing all materials to be had at the usual rates of the country.

All plashing should be done in February, and, if possible, when the ground is either under corn, or shut up for meadow, as cattle are extremely fond of the young shoots in summer, but when they grow hard towards winter, they seldom crop them.

Quicks should be chosen clean and smooth in the bark, four or five years old, well rooted, and, if possible, once transplanted. Where stone is tolerably convenient, piers are frequently met with, but in places, at any considerable distance from a quarry, a wooden post or an ash tree must serve. The Messrs. Rothwells build their piers of two parallel walls, with a reveal in each, the depth of the thickness of the gate post, and say, that a ditch can be brought better to the back of it than to a square pier; others build theirs half round, the flat side of each pier next the ditch for the like purpose; but the field-gates built by the late bishop of Meath at Ardbracon, in point of neatness and simplicity, exceed any thing I have seen in the county; certainly the advantages were great, in having the quarry on his Lordship's demesne, but to a person residing at a distance, that would be only the difference of the carriage. They are each composed of twelve stones, every two making a course of work, one foot high and two feet square, and the piers and iron gates may, I think, even at the present price of iron, be had for about

about eight guineas. Except on the demesnes of noblemen and gentlemen, the gates are generally composed of wood, and can be had from half a guinea to a guinea and an half, according to the quantity of timber used in forming them. On Thomas Rothwell Esq's. grounds, however, iron gates are to be met with, even leading from one field to another; upon each of his farms, his piers, gates, fences, and hedgerows, are most excellent indeed. The most common size of fields is from ten to twenty acres, although many are found amounting to thirty, and two or three immediately in my neighbourhood have seventy, yet they may be generally rated at fifteen acres. Farmers think this the most convenient size. In confined farms, and in grounds subject to wet, they are smaller.

CHAP. VII.

ARABLE LAND.

SECT. I. *Tillage.*

AS the good or bad tillage of any country must depend in a great measure upon the persons employed in ploughing, it behoves the farmer to be extremely nice in the choice of his ploughmen, and to be himself completely skilled, both in the theory and practice of the operation, to know the purposes intended to be produced thereby, and to teach them, if possible, to his men. I shall here copy, from Donaldson's Agriculture, his opinion on the different effects to be produced by the action of the plough.

“ Ploughing serves the following purposes. It in-
“ creases the food of plants, enlarges their pasture,
“ prepares the vegetable food for entering their roots,
“ destroys weeds, and removes wetness.

“ Ploughing increases the food of plants, by open-
“ ing the soil to receive the vegetable food from the
“ air, and by enlarging the surface, thereby exposing
“ a greater

" a greater quantity of soil to its influence. Plough-
 " ing enlarges the pasture of plants, by opening the
 " soil if too solid, and making it firm if too light.
 " Ploughing prepares the vegetable food for entering
 " the roots of plants, by reducing vegetables to a state
 " of corruption, and dissolving oils. Ploughing de-
 " stroys weeds, by making their seeds vegetate, and
 " then tearing up their young plants, and by exposing
 " their roots to the drought. Ploughing removes wet-
 " ness, by laying up land in proper ridges. It may
 " be said, therefore, that ploughing is one of the most
 " important operations in agriculture, and that the
 " greatest care must be therefore taken in the per-
 " formance of it."

Next to a complete knowledge of the theory and
 practice of ploughing, the farmer should be intimately
 acquainted with the *propensities* and *antipathies* of the
 soil he works, both with respect to cropping and ma-
 nuring, and with the substrata, its capabilities, and in-
 ternal resources. The knowledge of these several
 points once attained, there is little required of him but
 attention and perseverance in the practice and applica-
 tion of them. This the farmer is not always equal to,
 arising from the difficulty of procuring skillful plough-
 men (a very general complaint), and from the want of
 capital.

From the limited term of the lease too, the tenant is
 often deterred from risking any considerable sum, as
 the

the probability of a renewal depends upon a mere chance, caused by the baneful system of advertising and letting to the highest bidder, with little regard to the tenant in being, a practice almost universally adopted throughout this country.

The soil of the county of Meath being principally composed of a deep rich earth, the deepest ploughing is generally considered the best tillage,* and from the propensity of the soil to weeds, the farmer, who has his ground in the most cleanly state, and at the same time most friable and pulverized, is considered to have his farm in the most profitable condition; beyond this, very few of our farmers have any idea. A regular system of cropping is not followed by any of our common farmers, nor is agriculture, or its theory, understood even by many of our best informed gentlemen farmers, and what may be justly termed improved husbandry, with few exceptions, is almost quite unknown in the county.

Although

* From an idea of turning up fresh earth possessing vegetative powers, that never were called into action; yet the soil at the utmost depth should not be all turned to the surface at once, but by degrees; as the upper stratum is exhausted, a gradual supply of virgin earth should be judiciously added, which, though it possesses not those qualities, which are found to promote vegetable growth, yet has inherent, in its particles, the power of attracting from the atmosphere those gaseous products, which, when added to the soil, form the grand pabulum of vegetable existence.

Although the earth, by well timed cropping and ploughing, will gradually increase in, or at least retain its fertility, the longer it is tilled, yet in this county its powers gradually decrease from the first or second crop, until it can hardly return a quantity equal to the seed sown. This is entirely owing to the farmer's ignorance of a regular system in the course of crops, and the want of a return to the earth, through the medium of manure, fallow, green crop, &c. of part of the vegetative powers, of which it was deprived. But bad as the present state of husbandry may be in the county, it is a well-known fact, that it is much more improved within these last ten years, than it was during at least the fifty years preceding. This general improvement is due to three very extensive causes; first, to the very great encouragement given to superior tillage by premiums from the Dublin Society, together with the vast information on agricultural subjects, disseminated by it through the country at large. Secondly, to the increase of population, which by creating a demand for land, and consequently a rise upon rents, sets ingenuity at work, to devise some method of forcing the earth to yield more abundantly than heretofore; superior tillage was the means, that naturally presented itself. And thirdly, to the number of gentlemen of landed property, who have of late made agriculture their chief study, as well in practice as in theory, furnishing more frequent examples of the

the good effects of superior tillage. And as example has at all times exceeded precept, this was the quickest, and most certain method of reducing a knowledge of the practice to the level of the understandings of the generality of farmers. Add to this, the very great share of liberality and information, which the present race of farmers possess over their predecessors, which has rendered the adoption of modern improvements, in tillage and husbandry, so much more general than heretofore, that we find many now following a practice, that their ancestors would have styled innovation, and against which they would have shut both their eyes and ears, lest they should be obliged to acknowledge its superiority or advantages over those practices, which they had for so many years continued in the habit of. Too many such characters are still to be met with, not only amongst the ignorant, but also amongst the more enlightened; yet every day's experience of the benefits arising from improved husbandry will, I trust, diminish their numbers, and I look forward with hope and pleasure to the day, when none such will be met with in Meath, a day when self-interest will induce those farmers, at present wedded to the old system, to adopt more improved methods, from a thorough conviction of their utility, which they now either affect to despise with supercilious contempt, arising from ignorance, or reprobate as wild and chimerical.

Much

Much as we have improved in tillage within these few years, there yet remains a great deal to be effected; and to take into view the agriculture of Meath, with some of the counties of England, would be drawing a comparison, which must only tend to expose our deficiency on many subjects, of which we should not at this moment be ignorant. But as all things must have a beginning, so *time* will probably bring to pass what the best theory could not immediately effect, and we may fondly hope that, though its operations are slow, they will yet be sure, particularly as the object of our pursuit is of so very general and manifest utility.

SECT. 2. *Fallowing.*

WHETHER a compleat dry fallowing is at all necessary for the lands of Meath; whether green crops may not answer every purpose as well, if not better, as some assert; or whether the regular fallow may not be deferred to periods more distant in the course of crops, are questions, which I shall not here attempt to determine; they have already been ably and frequently discussed by several writers on the subject. I shall therefore only state, what is the practice and opinion of those farmers, with whom I have conversed upon the subject,

subject, and leave it to the reader to adopt or reject the practice, as he shall think fit.

The soil of Meath being generally a rich earth, rather retentive of water, and naturally prone to the production of weeds; a compleat summer's fallow is considered by the most judicious farmers, as absolutely necessary, at stated periods, effectually to eradicate them; every attempt to cleanse the ground, by clover, vetches, or any other umbrageous green crop, proving insufficient.

Although a summer fallow is, in most instances, adopted for the purpose of speedily cleansing the earth, yet it is often resorted to, as the surest and cheapest method of meliorating and invigorating a worn out soil: in both these cases, and whatever may be the end proposed in fallowing, the fallows should always be broken up before, or at least as early in November as possible. If to cleanse is the object, the seeds, that were shed by weeds, are covered, and provoked to put forth their buds and strike root, which the succeeding ploughings expose to the wind and weather, thus to be shrivelled by the drought, or picked off by the hand. If melioration be the object, the land, by being thus thrown up, receives the frost more thoroughly, and is of course easier pulverized by the succeeding operations of the plough. Where fallowing is adopted for the purpose of destroying couch grass, Mr. Morris prefers the practice of leaving the fallows *unbroken*,
until

until the latter end of *April*; he thinks the roots are then more easily destroyed, either by picking off, or by the scorching heat of the sun; it is his opinion also, that every ploughing in the winter, or early spring months, serves but to provoke a fresh shoot from the couch root, the smallest part of which, suffered to remain in the ground undestroyed, will spring up again; but though, in many soils, this practice may be the most advantageous, yet it must not be considered as the best plan of fallowing in soils of so stiff a nature, as nothing short of the powerful influence of frost can crumble sufficiently to receive harrowing, and be thus rendered fit for seed. On light gravelly soils, where there is not a sufficient degree of retentiveness to hold the moisture to the root of the plant, fallowing, although practised by some, is considered as extremely injurious; here clover, turnips, &c. are considered, although seldom used, as preferable to fallowing. But on stiff, cold clay, or on grounds, that are subject to become hard and heavy, after three or four crops, those that are difficult to be worked in a dry summer, and as difficult in wet weather, such as can only be wrought at stated periods, when the weather is neither too wet nor too dry; these are the soils, that require a compleat summer's fallow, after having been ploughed before the winter's frost.

Those farmers, who pay particular attention to their tillage, generally break up their fallows before Christmas

mas as lightly as possible, yet so as to reverse the surface; in this state it lies, until after the spring corn is sown, potatoes planted, &c. at which time it is either cross-harrowed by a heavy harrow, or, if clotted together by the rain, it is back-stirred * with the plough, somewhat deeper than the breaking, before it is harrowed. If dirty, the couch-harrow is now run over the ground, and the weeds gathered, and generally burned; and if to be manured or gravelled, it is done at this season.

The next ploughing is called the *gerrowing*, and is performed by ploughing across the ridges with six horses or bullocks, turning up the ground in high narrow ridges, composed of eight scribes of the plough; these ridges cannot be raised too high towards the middle, in the idea of the farmer, and the ploughman is continually urged to two points; first, not to leave any part of the ground uncut; and next, to plough as deep as possible, yet so as not to turn up any unnatural clay, that the sun and scorching winds of summer may have

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* In this case Mr. Morris would cross-plough, instead of back-stirring; he thinks back-stirring serves to bury the couch out of the reach of the harrow: this has been put in practice by some gentlemen in the neighbourhood of Navan, who use the Scotch plough, and say, that this mode breaks and cuts the fibres of the couch-grass so much, that the harrow or rake, used for the purpose of taking it off the surface, has not the effect it has in other cases, as the couch-grass slips through the teeth.

full liberty to operate upon the soil for melioration, and upon the weed-root for destruction.

In this state it is left during almost the whole of the summer, after which the plough takes a broad stroke off each side of the ridge, and turns it into the furrow; this is called *spalling*, or small ploughing; the four-horse harrow is again run across it, and the ground is made quite level, and, if dirty, it is again couch-harrowed and picked; in short those, who do their business right, plough, harrow, and pick, until their ground is perfectly clean.

The next ploughing, that the fallows receive, is called *stretching*, and runs as the ridges of sown corn are intended to lie, and are left five or six feet broad; upon these ridges the corn is often sown broad-cast, and harrowed in; the furrows being shoveled upon the ridge, a little corn is sown in the furrow, and one turn of the plough run in it; when this is not the case, the plough is run twice in each furrow, and the whole levelled again, sown on the surface, and ploughed down in six or eight sod ridges.

Many leave the land in the *gorrowing* ridges until the time of sowing, and then score-harrow, and, without *stretching*, sow the corn on the surface, and plough it in; but this is considered a slovenly practice, no fallow being thought complete, without having undergone four ploughings at least; and, indeed, from the heavy covering, with which the middle of the ridge is loaded

loaded in gorrowing, without the process of stretching, a part of the soil must remain unexposed to the air, previous to being sowed. Those, who do not break up their fallows before Christmas, do it as soon after as possible; some slovenly farmers neglect to break up until May, after which the ploughings follow each other so quickly, that the seeds of the weeds are not suffered to vegetate, which is absolutely necessary to their perfect destruction.

Some farmers prefer putting on their manure after gorrowing, from an idea, that it is kept nearer the root of the plant by so doing, than if it was put on before, as the deep ploughing might bury some of the manure, totally out of the reach of the root of the plant.

Lime; having the property of sinking, is generally considered to be of the most service to land, that is to be tilled for any length of time, when laid on the soil after gorrowing; but if the ground is to be immediately laid down, it is said to be more evenly mixed, and to increase the surface of the earth most effectually, by being laid on before the gorrowing.

Planting potatoes, even without dung or manure, is looked on as a good method of fallowing on rich soils, where cleansing is the only object to be attained; but planting them with dung, when both cleansing and enriching are the objects, is considered, with justice, as much better.

It is a common practice, when a farmer lives near a village, to open the field that he purposes fallowing, in order that the poor cottiers round him may bring their manure, and plant their potatoes in it. If the field is in tolerable heart, he charges as much per acre, perhaps something more, than the rent he pays, which is termed "paying the standing rent;" if poor, he makes no charge. In one case he gets his fallows manured and worked, without even the charge of the second year's rent, which the crop after a dry fallow owes him; and, at all events, he has his ground manured free of cost, and nearly as well worked.

Planting potatoes in drills, is a practice coming fast into general adoption, and is considered to be the best method of potatoe fallowing, as by it the land can be kept well wed with the plough, at little or no expence.

Mr. Codd, of Navan, works his fallows entirely with the Scotch plough; he generally breaks up before Christmas, and in April or May he cross-ploughs, a little deeper than he broke, without previous harrowing, and then he ploughs diagonally across these ridges, with three horses, some inches deeper than his first or second ploughing.

He says this method is the best and quickest to reduce a stubborn soil, and that it serves to banish the weeds as effectually as the old method of fallowing. His ploughman, a Scotchman, drives either three or
four

four horses in hand, and holds the plough at the same time.

In gorrowing, farmers differ in opinion as to the expediency of throwing up the land into high narrow ridges, or leaving them flat and broad.

Those, who practise the high narrow plan, argue, that they expose more of the earth to the influence of the weather, than if left broad, and, of course, serve the purposes of fallowing more effectually. On the other hand those, who are persuaded in favour of the broad form of the ridges, insist that, in opening the ridge, few ploughmen are sufficiently careful, in coming back, to throw nearly one-half of what they took up the first stroke, into the same furrow again; but, by coming wide of it, they leave part of the ground uncut, which the farmers call "leaving a bone in the ground." If exposure to the air, sun, &c. be the object, it is effected much better in the broad ridges, as by them all the earth is equally exposed; but, in the other way, a considerable part is covered, by heaping up together that earth, which, in the broad ridge, would expose a more even surface to the influence of the air and sun, as, in the raised ridges, the third and fourth sod cover in the first and second. Much may be said in favour of both practices; the gorrowing in high ridges, however, is by far the more prevalent practice.

I shall

I shall conclude this head, by reporting the opinion of an excellent farmer on the subject of fallows (William Morris, Esq.), who is as extensive in the tillage line as perhaps any man in Ireland, having seldom less than four hundred acres of corn per year, often much more, and is generally considered to make as profitable use of his land, as any other farmer in the county. He thinks, that a dry summer-fallowing is absolutely requisite for the generality of the lands of this county, and that vetches or clover never can be substituted with effect: that the better the ground is fallowed, the longer it will be without requiring another fallow: that, whereas from a bad fallowing two or three profitable crops can only be produced, a good one will be followed by five or six, and yet the soil continue tolerably clean. When once the land is clean, heavy green crops may keep it so, perhaps two or three years longer than it would remain without them, but then it will require a repetition of the former working.

Mr. Harman, of Drogheda, has a farm in Duleek barony, which he used to fallow (being a stiff clay) every third year; but, by the adoption of vetches, clover, &c. and the use of the drill machine, he now fallows only every fifth year, and, he says, with better effect, than heretofore he did every third.

On the whole, the subject of fallows is one, which is of such importance in agricultural calculation, that it appears to me, the sooner it is decided, whether or
not

not we are to continue in its practice, the better for the community. There can be no doubt as to the necessity there is, of ceasing at a certain period from a repetition of sowing the same kind of grain in situations, where the produce becomes less after the second crop, perhaps in a duplicate proportion, or indeed even in a ratio still greater; nor is there a doubt, that after the lapse of a certain time the soil will be so far renovated, that it may produce equally as at any former period. But without seeking for the cause of one or the other of these facts, either chemically or philosophically, we are still prone to continue in the old practice, as our forefathers did, and wisely make use of the trite remark, "*That when a horse is tired he must lie down and rest, and when a field is tired it must lie quiet and rest;*" but this, though a figurative, is not the less an unjust comparison; for comparing an animated being to an inanimate substance, is an absurdity, and, as its effect serves to deter many from looking further, should be discarded. The fact is, there is a capability in the earth's surface, when in contact with the atmosphere, of imbibing therefrom certain gaseous products, which chemical causes and consequences are constantly evolving. The process of vegetation depends not only upon a due admixture of these, or with the soil vegetables exist in, but is advanced by external air and heat; the slow gradations, in which, by fallowing, these products are united to the soil, is a certain drawback on the

the profits of the husbandman. If we are to enquire, whether it is possible to give to the soil those products more expeditiously, so as to renew its energy in a given time, without the tedious process of fallowing, we can with certainty answer in the affirmative—namely, by the several kinds of manure, whose action is nothing more than returning that pabulum, which is necessary to the well being of the crops, to the earth they grew in; but then, though this is practicable, yet the expence of manuring is equivalent to the loss sustained by the delay in fallowing, and thus the advantages and disadvantages meet at a point. On a proper rotation of crops must we principally depend for profit and advantage, still retaining within the earth's bosom those energies, which give life and vigour to the vegetable kingdom, and repay the farmer for his toil; thus, at a period not far distant, may we hope to see the practice of horticulture extend itself into the field, and the enlarged operations of agriculture carried into effect with the precision of science, and the perseverance of industry.

SECT. 3. *Rotation of crops.*

I HAVE NOT BEEN able to procure information of any landlord, who has either confined his tenant to a certain particular course of cropping, or prevented his
cropping

cropping his land as he thinks proper, nor of a tenant, who strictly adheres to any particular system. Every man sows that kind of grain, from which he expects to reap the greatest produce.

The most usual course, however, on lands consisting of deep rich clay, such as have been under grass from ten to thirty years, and are in the hands of farmers, is as follows :

1st year, potatoes on the lea, perhaps ploughed lightly, and afterwards planted in the lazy-bed way.

2nd year, potatoes, the last year's ridge being the furrow on the following, and planted as above.

3rd	-	-	-	oats.
4th	-	-	-	oats.
5th	-	-	-	oats.
6th	-	-	-	fallow.
7th	-	-	-	wheat,
8th	-	-	-	oats.
9th	-	-	-	oats.
10th	-	-	-	oats.
11th	-	-	-	fallow, &c.

On the lighter soils, that are capable of yielding barley, the following is generally the course:

1st and 2nd year, potatoes as above.

3rd - oats.

4th - barley, with two ploughings.

5th - oats.

6th - potatoes, with dung.

7th

- 7th - bere sown after the potatoes are dug out,
sometimes barley the following year.
- 8th - oats.
- 9th - oats.
- 10th - fallow.
- 11th - wheat, &c.

When grounds have either been laid down out of heart, and are become what the farmers term *hide-bound*, or from dirt or couch grass do not yield kind herbage, the course generally is,

- 1st, Potatoes on the lea, with dung or lime.
- 2nd, Potatoes, after which the land is laid up in high ridges, and if proper,
- 3rd, Barley, if not oats, and grass seeds.

When land is reduced by being long under the plough, perhaps with bad management, the course of crops is materially altered; fallowing is then resorted to every fourth year: Thus,

1st	fallow	or	1st	fallow.
2nd	wheat	—	2nd	wheat.
3rd	oats	—	3rd	oats.
4th	oats	—	4th	potatoes.
5th	fallow	—	5th	barley or bere.
6th	wheat	—	6th	oats.
7th	wheat, in which clover is sown, and fed off for 2 or 3 years to rest the land, - 7th			
				fallow.

The

The use of clover is become more general, even amongst the small farmers, than heretofore, and its value as a crop seems to be more universally known and acknowledged. But as a fallow they cannot be induced to adopt it, as indeed they are averse from most green crops, except the most evident proofs are brought under their eyes.

It is sown generally in the wheat crop, and eaten off by sheep, or soiled by the working horses, &c. in the fold-yard for the first year, and ploughed in for a crop of barley the spring following, if the ground is fit for it; if not, oats is the crop, or perhaps it is fed off a second or third year, after which fallow and wheat as before*.

Bere

* At a time not far distant it was found necessary, by the Dublin Society, to offer premiums to those, who grew clover, and many pertinaciously opposed its use; of late it has become so general, that few farmers are seen without a greater or lesser extent every year. To the general use of clover are we to impute the progressive rise on land, conjoined with other casual events of general as well as particular influence. Previous to the use of clover, the proprietor of a wretched worn out farm had no resource, but to sit in silent anxiety, and wait the coming of his crop after fallows, whilst he pined in poverty during the interval between one crop and the other. If the fallow crop was not productive, his ruin was inevitable, and hence the cause, why individuals pay three times the rent now, which their predecessors were unequal to; a circumstance, which the rise on corn, and the increase in population, cannot alone account for, independent of the late improvements in husbandry.

Bere is a crop very much cultivated in this country, and although uncertain in its growth, yet, when it does hit, is extremely profitable. It generally rates within three shillings per barrel of the price of barley, and is often sown in spring with success, but most generally in November and December, and then in ground, from whence potatoes have been dug. It is thought not to injure the land as much as wheat would, if sown after potatoes, and from its stocking or stooling in spring, overspreads the surface, and leaves the ground perfectly clean.

Bere is seldom sown in grounds, that have been fallowed, except in bottom land; those are generally cropped with wheat, as producing the surest profit. In the deep rich loams about Navan, within the reach of dung from the distiller's yard, bere is often sown after barley or oats, the stubble being first highly manured. These grounds are seldom fallowed; when they become dirty, potatoes are found sufficient to cleanse them of filth, and they are kept in such high tilth, and the demand for potatoe ground is so great amongst the poor, that they pay immense prices for it; perhaps from eight to ten pounds per acre, when manured for them.

When barley is sown after a crop of oats, wheat, or bere, the land is twice ploughed; one ploughing is done in November or December, and the other immediately previous to the sowing. When it is sown
after

after potatoes, the ground is left as when the potatoes were dug out, until the sowing season commences, then ploughed once, perhaps twice.* Barley grown after potatoes is generally ill coloured, and strong in the rind, and on this account does not produce as much at market, as that sown after fallow or stubble twice ploughed, although oats sown thus would grow rather brighter in its colour than the feed sown.

Land in the hands of poor farmers is worse managed, as may be supposed, than what we find in the possession of the more wealthy, and their rotation may be fairly stated thus :

1st, fallow.

2nd, oats.

3rd, oats.

4th, oats, if it will yield, if not, potatoes with a little dung.

5th, bere.

6th, oats.

7th, oats.

8th, oats, and thus left to itself, to recover as it can,

* This practice is rational; for should the soil be ploughed up previous to the sowing season, nothing can be gained, as it is already imbued with those particles, that are friendly to vegetation, and a great deal may be lost by the heavy rains, washing from the earth its richest ingredients, should the soil be long ploughed up previous to sowing. The reverse may be said of fallows; for here nothing can be lost, and a great deal gained by the gradual decay of roots, fibres, &c. and the long exposure to air and frost.

can, producing little to the owner but weeds, on which, however, his wretched cattle must feed or starve.

When a poor man comes to possess a small portion of bog, he first tries to drain it; then during two years successively he plants potatoes, after which he sows rye, then oats, once or twice, afterwards potatoes with dung.

When barley or oats succeed to wheat grown on high ridges, the farmer in the month of November or December ploughs every second ridge, laying the half on either side, upon the adjoining ridge.

The furrow thus made becomes the centre of the ridge the following spring, and the barley or oats thus sown produces generally a nice, although not a heavy crop.

Thus we see there is no systematic rotation in the mode of cropping throughout Meath; and I am firmly persuaded, that nothing but time and the example of men of independent fortunes, bringing into effect the profitable practice of interposing green with culmiferous crops, can improve the interior agriculture of the country. For though in many instances, among the lower order of farmers, there is to be found an apathy and indifference, and in like manner a stupid sort of obstinacy, in respect to any proposed improvement,
yet

yet to these causes alone we are not warranted to impute the slow adoption of new plans.

The farmer naturally says; "Should this implement not answer the purpose, or should my crop be unproductive after such and such experiments, will my landlord forgive me the half year's rent? certainly no; therefore I will not venture;"—thus we must perceive, that timidity and over-prudence tend as much as other causes, to check the advancement of agricultural improvements, and, from this view of the subject, we must say, with justice.

SECT. 4. *Crops commonly cultivated, their seed, culture, and produce.*

THE crops commonly cultivated in Meath are, wheat, oats, barley, bere, rye, meslin, clover, flax, potatoes, cabbages, rape, turnips, and peas. The first nine of these are found almost upon every farm in the country, capable of producing them; the four last, though frequently met with, yet are not very general throughout the county; their culture and produce, together with the quantity of seed sown, is nearly as follows, viz:—

Wheat. There are but two kinds of wheat grown in this county, the white and the red. The red most commonly,

commonly, as agreeing best with the soil, and having a thinner rind, is more advantageous for the miller. It bears the change of season much better, is less apt to lodge, and, in the end, turns out more productive than the white.

The straw, in rich ground, or in sharp smart ground well handled, grows to a good length, and tolerably strong; the grain is apt, however, if grown in clay grounds, to be what is usually called steely, and it frequently contracts a smut, extremely injurious to the colour and quality of the flour produced from it. It is always sown after a dry fallow, or in potatoe ground, at the rate of from eight to twenty stone to the acre, if put in fallow; it is either sown with the plough in eight fod ridges, which is termed *sowing under*; or in broad-cast, on ridges of about six or seven feet wide, and the furrows shoveled, as already described under the head *fallow*.

When sown after potatoes, the ground is either ploughed, and the seed sown broad-cast and shoveled, or the sides of the ridges are first dug into the furrow, and the potatoes picked up, and then the seed is sown upon the ridge, the digging the remainder of which covers it sufficiently. This is particularly practised in bottom land, and is called *digging* in the seed; good crops are frequently produced from the practice, although in this way the ground must be the less free from weeds, and undergo bad tillage.

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The chaff of the red wheat is tipped with dark brown, and when ripe in the ear, standing in an horizontal position, the field has a deep reddish brown hue.

The white wheat is cultivated on the lighter and more gravelly soils of the county. It comes in earlier, but is more subject to be damaged by wind, rain, or mildew, than the red, and is of course a more uncertain crop.

When grown upon a nice warm, sharp soil, and the harvest fine, the grain is of a dull white colour, and, when placed against the light, appears to be almost transparent, and to have a remarkable thin skin; yet the millers complain of the great quantity of bran yielded by it, and, in general, for this and the above reasons prefer the red.

The flour of it is extremely white, and in a fine harvest the grain is thought to produce well; it is also sown at the rate of from eighteen to twenty stone per acre, according to the state of the ground, and eight barrels per acre is generally considered good produce.

The straw is not so strong as that of the red wheat, and is more subject to lodge in a wet season.

Poor land, of a smart and light nature, will give a better crop of white wheat than it would of red; such are the lands about Bective, Robinstown, Dunlogh, and Bellewstown; and there are many rich clay grounds, that will give good red wheat, and yet will not produce good white. It therefore follows, that

and wheat is the principal kind sown, as the chief soil throughout the county is of a clay nature.

Farmers derive considerable benefit from a change of seed; thus, in the baronies of Kells and Morgallion, they, perhaps, procure grain for this purpose from Duloth, &c. and *vice versa*, and in like manner throughout the county. It is generally supposed, that this renewal of seed should take place pretty often, as it is observed that the produce decreases, is weak, and more subject to blight (or *blast* as it is called) when rotation is not observed in this particular. Animals, when too *close bred*, as the term is, are considered to degenerate; and probably in the fecundation, which is the consequence of mature vegetation, a change becomes as requisite as a cross in breeding; at least there appears some analogy. In all cases the wheat is *pickled*, and by good farmers sown before the first of November, although I have heard of instances of good crops being produced off hand, sown in even the latter end of December; yet such crops are very uncommon, and the greater part of the wheat of the county is sown before the middle or end of October.

There are several kinds of pickles used for wheat, which is the only grain generally so treated in the county, though some subject barley, bere, and turnip feed to this treatment. The pickle most commonly used, is made by dissolving as much common salt in water, as the water is capable of holding in solution,

in

in which the wheat is steeped, from twelve to twenty-four hours, according as the seed may appear damaged, or the ground, in which it is to be sown, is likely to be productive of blight or worm. When the seed has lain in the pickle for the proper length of time, should the farmer think necessary, it is taken out, and by some sprinkled over with stale *chamber-lye*, and others mix quick lime and water thinly together, and merely sprinkle the seed instead of steeping it; but all parties agree, that pickle is extremely necessary, both to keep off birds, and to destroy the vegetation of the weaker grains; these will always swim to the top of the pickle, and should be carefully removed. Those, who use arsenic, say, that its powers are great, in penetrating into the damaged grains, and preventing their vegetation, which would be weak, and more subject to be blighted or blasted than from the stronger grains.

A very few blighted ears are sufficient to damage a whole crop, as the black dust diffusing itself will spread to almost every grain manufactured with the produce of those blighted ears, and materially injure its colour; such grains, therefore, as are supposed likely to produce weak shoots, are better to be totally destroyed (not to mention the additional room thereby acquired for the healthy shoots to stool) than suffered to grow, to the injury of their stronger brethren. It is the opinion of farmers, that blighted seed will produce blighted corn; in support of which, the Rev. William

Kellet has mentioned a circumstance to me, of his having sown some seed one year, in which there was a little blight, and that the crop produced from it was much more blighted. That the year following he sowed this for seed again, and the produce was much worse the second year than the first; that he sowed it the third year, and had little else than blight, although each year he pickled his seed in the common way. From which circumstance it appears, that pickle is not sufficient to prevent blight altogether, if damaged seed is sown; although it may prevent it, in a great measure, in seed that is not materially injured.

As the best seed, that can be procured, will have among it a few damaged grains, these may, perhaps, by good pickle be destroyed, and thus prevent bad consequences.

All corn is reaped with the hook, by men, and bound by women or boys, and stacked in the field for five or six weeks, before it is drawn home. Wheat, except in broken weather, is generally stacked immediately after binding; but barley, oats, and all other kind of corn, is stooked or formed into very small stacks, for a few days, previous to its being stacked; ten sheaves making a stook, viz. four standing with their ear upwards, and two sheaves making a cap with the ear directed downward, which shields them from almost any rain. If the corn is bound dry, it seldom receives any injury in stook from the severest weather.

Oats

Oats is the grain, of which, in this county, we can produce the greatest variety, and the finest samples. The kinds principally sown are, the white Holland, early English, the Hambro, the old Irish, and the black.

The white Holland should be sown early, in good rich ground, and cut when almost green, else it sheds. As soon as the knees or joints of the straw begin to grow white, and the straw to soften towards the ground, it is cut and ledged for a few days, sometimes for a week; if it is not cut thus green, the smallest wind will cause a greater loss to the farmer, from its shedding, than any benefit, that will arise from an additional ripening; so that, of the two, it is preferable to cut rather too early, than let it stand too long. In rich ground, from one barrel and a half to two barrels is generally sown to the acre, and the produce from seventeen to twenty-two (in some instances twenty-five) barrels per acre. The grain is extremely white; when cut green and well saved, it is short and the rind rather thick, of course not very productive in meal. The early English, by some called the Flemish, oats love a rich deep clay, and should be early sown and well covered. They are apt to shed, if suffered to ripen too much, yet they do not require to be cut so green, nor to be so long ledged, as the white Holland: the straw, when produced on rich clay grounds, grows to a great length, and nearly as strong as wheaten straw;

straw; it is therefore not thought so good fodder for young cattle, as the straw of other kinds of oats. The grain is a yellowish white, short, and plump, with the rind a good deal thicker than the white Holland; yet this grain has heretofore brought the highest price in market, particularly in Drogheda, from whence it is chiefly exported. The quantity of seed sown, and produce per acre, the same as the white Holland; yet the early English should have a richer and deeper soil.

The Hambro oats, commonly called the amber, is generally grown on the poor exhausted soils of the county, is very hardy, does not require to be sown so early, and must be let to ripen fully before it is cut; the straw is not either so long, or so strong, but its rind is much thinner than the early English, and although the grain is not so large or plump, it is much more productive of meal than either of the above mentioned kinds. Generally, two barrels and a bushel of this kind are sown, and its produce is from ten to fifteen barrels to the acre. It has a yellow shining colour, and would appear to a person unacquainted with it, as if it had heated a little. Some farmers will assert, that this is the most profitable kind on any soil.

The old Irish oats are the best for the poor heavy clay grounds, but they would produce better crops on the lighter and smarter soils. They are the most productive of meal, from the thinness of the rind, although, in appearance, the most starved grain of any grown in
the

the county. The straw is short and fine, making most excellent fodder for young cattle; it must be let to ripen well before it is cut, else the grain would be shrivelled and small, and very difficult to thresh out, and of course not bring so good a price in market as the plumper kinds. There is more seed sown in the ground, of this sort of oats, per acre, than of any other, most commonly two barrels and a half; and its produce, from being generally sown in poor exhausted ground, seldom exceeds twelve barrels, often not so much. Some years since, it was very much grown in the country, but it is giving way to the Hambro within these few years.

The black oats are very little cultivated of late in this county, although some years since they were very much prized: it is a large, long grain, with a very thick skin, extremely hardy, and the best adapted to poor, wet, cold, bottom land; the meal produced from it is generally ill coloured, if not very well sifted, and does not bring as good a price at market, as that produced from any of the above mentioned kinds; it is principally grown in that part of the county bordering on Cavan, where it is chiefly used as horse-corn at carmen's stages; and even in that part of the county the culture of it is going rapidly into disuse.

These are the principal kinds of oats sown in the county, although farmers will tell you of others, which they have; yet, upon examination, they turn out to be
a variety

a variety of some one or other of those already described; being somewhat altered in appearance, from having been too often sown in the same ground.

When oats have been sown for six or eight years in any one soil, they contract a beard, and have many black grains intermixed; and whenever this is the case, it becomes necessary for the farmer to shift his seed.

Some grounds are more apt to change the appearance of the seed than others; and, in many cases, this change will take place after the second crop.

I have known instances of seed sown in the barony of Navan for four or five years, at which time it had contracted such a beard, and was so *bracked*, as the vulgar expression is, or intermixed with black grains, that few would sow it; in this state it was sown in Morgallion barony, and produced the first year as fine a crop as possible, perfectly well coloured, without beard, or black grains, and in every respect what it was, when first sown in Navan barony. Clay grounds are most apt to produce black and bearded grains.

Oats are the most universal crop sown; something more than at the rate of three to one of any other crop; for which the markets of Navan and Drogheda afford a sure vent: the time of sowing, from the middle of February to the beginning or middle of April,

Barley is the next grain, that comes under our consideration, of which there is but one sort now sown. Some years since there was a kind of barley, having
four

four rows of grains on the ear, but it has long since been in disuse, nor have I ever seen any of it. Its culture has been already described under the head, *Course of Crops*; the quantity of seed sown is from sixteen to twenty-one stone, and its produce from ten to sixteen barrels per acre; the average of the county is thought to be about ten. It is sown on the richest and smartest land (as the phrase is), and requires the nicest tillage of any other crop; there is always a brisk demand for it, and it is considered as profitable a crop as any the farmer can cultivate; the straw is of little use, except for dung, being bad thatch, and worse fodder. Time of sowing, from the beginning of April to the beginning of May; some crops are sown after the 15th.*

Bere is a good deal sown, particularly on the lands, whence potatoes have been taken; it requires a good, rich, deep soil, yet answers well on light soils if manured, and is considered a very profitable crop, when it happens to succeed, which is not always the case. There is no grain more subject to variation in its price than bere; I have known it one year from a guinea to 16s. and the very next from 5s. to 7s. the barrel; yet the farmers are fond of sowing it; the straw makes
excellent

* The fair of Beftive is always held on the sixteenth of May, after which I have frequently seen the fair-green ploughed up, and sown with barley, which, in a dropping season, succeeded well; in a dry season it was very bad indeed. R. T.

excellent fodder for young cattle. The sowing time commences in October, and continues to the middle or latter end of November; and some good crops have been produced from ground sown in January, but very seldom. It cleans the ground better than any other grain, from its growing close, and smothering the weeds.

Rye is a grain not very frequently sown by itself, except in the baronies of Slane and Duleek, but is frequently mixed with wheat, and then it is called meslin, and brings a good price, to be ground into whole meal for the consumption of the farmer's family. When rye is sown by itself, it is frequently mown, and fed in the stable by the working horses in the beginning of May, when other green food is scarce, or eaten off by ewes and lambs in the spring, before the clover gets up. When this is not the case, it is suffered to ripen, and is reaped, threshed, &c. like other grains, and sold in small quantities to persons, to mix with wheat for bread, or to sow in bog-land.

The sowing time of meslin, its produce, &c. is the same as wheat, and rates within from 5s. to 8s. per barrel of it, in proportion to the quantity of rye thro' it; the more rye, the less valuable the meslin.

There is a good deal of flax sown in this county, in small patches, from twenty perches to three roods in a place, and for the use of one family, but there is seldom any cultivated merely for sale. It grows strong
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and luxuriant, generally too much so to produce fine yarn; of course we seldom see finer than two dozen to the pound, seldom any thing so fine, the produce of this county, except in Oldcastle and Kells markets, and then it chiefly comes from the borders of the county of Cavan. It is generally sown in deep, rich soils, dry, and, if possible, sandy; the fresher the land, the better; good tillage will produce plentiful crops, on even a poor soil: clover lea is said to succeed well, but is seldom tried: lime is thought to disagree materially with flax, making it harsh, and apt to peel badly, and few people sow it in ground, that has been lately limed, for that reason. In soils, that are reduced by frequent crops, the flax is sown after the potatoes, that were dunged, the land being twice ploughed and harrowed, until the ground is very fine; the seed is sown at the rate of one quart to a perch square, and the harrow drawn once over it. Time of sowing, from the middle of April to the middle of May. Pigeons and small birds are very fond of the seed, and do much damage, if not well watched. At the flax-sowing season, the flesh of pigeons tastes so strongly of the seed, that they can hardly be eaten, as they seldom use any other food when flax-seed can be procured. Their time for feeding is within half an hour of sun-set and before sunrise, at which times they ought to be closely attended to.

Much

Much care is necessary to weed flax whilst growing, as it requires a great deal of nourishment, which the earth cannot afford, if suffered to be robbed by weeds.

It is considered, that fine flax and good seed cannot be produced upon the same stalk, and that to have fine flax, that is, flax capable of being spun fine, it should be pulled before the seed is ripe, or rather just when it is formed, after the blossom falls. Many attribute the coarseness of this country flax to its being let to ripen too much, as it is scarcely ever pulled until the stalk begins to grow yellow, and the yarn produced from it is seldom finer than from one dozen, to one and a half per pound; this is termed pound yarn, and is bought by weight, bringing from 13*d.* to 17*d.* per pound, according to its quality.

The flax is ripe from the middle of July to the beginning or middle of August, at which time it is pulled, and bound in sheaves of about six or eight inches diameter; if the seed is to be saved, it is drawn through an iron comb, fastened in wood, called a *ripple*, by which means the heads, in which the seed is contained, are taken off; these are dried on a winnow-cloth, and the flax tied up in bundles, and steeped from four to twelve days, according to the strength of the flax, or softness of the water; strong flax taking more time to ripen in the water, than weak: bog-water is considered the best, and next to it, a stagnant limestone quarry; the water of marle-pits is said to injure, from a degree of
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of acidity existing therein; the water, that has drained through strata of limestone-gravel, partakes of a like quality, and injures the flax materially, should it be permitted to lie long in it; it is seldom steeped in such.* The use of watering this plant is to rot the pith, and other useless parts, and make them separate freely from the rind, in which the fine fibres of the flax abound; great judgment is therefore requisite, to know when the pith is rotted, and the fibrous part of the rind safe; when this is effected, it ought to be lifted, as the water will next damage the rind, and the principal part of the flax will, in the working, run to what

Note by Doctor Gibney.

* The process of steeping flax is intended to destroy that part of the plant, which is useless, by slow fermentation, which must be so managed, as not to injure the fibrous part of the vegetable. Fixed air, contained in water, will promote fermentation: calcareous earths contain fixed air, which may be gradually dissolved, and held in solution by water; when this is the case, any substance, steeped therein, will go into the act of fermentation with more expedition, than if immersed in water, in which fixed air did not exist. Hence some waters are more adapted to this purpose than others; but why should water, passing over limestone-gravel, be more unfriendly to this purpose, than water stagnated over limestone, otherwise circumstanced? The fact is, that many waters contain not only fixed air in solution, but likewise a portion of vitriolic acid, which not only counteracts the process of fermentation, but penetrates the interstices of the plant, and destroys those fibres, that are intended to be preserved.

what is called tow. When it has lain in the water for a proper time, it is taken out, and spread thinly on a new-mown meadow; or, if steeped in the bog, it is spread on the heath (which is considered the best place) for ten days or a fortnight to bleach; or, if it has not been sufficiently watered, this serves the same purpose; after which it is gathered, tied up in bundles, and brought home, dried on a kiln made for the purpose, and broken with wooden mallets, or with a breaker; it is then tied in bundles, each containing twenty-one sheaves, about six inches in diameter, which is scutched by women, the first time at the rate of sixpence-halfpenny per bundle, and second time at threepence; it is then hackled to whatever grist the flax will bear, at the rate of three-halfpence per pound for such as would spin to pound yarn, two pence for two dozen, and so on, rising in proportion to the fineness of the yarn to be produced.

Whenever a cottager, who has a family principally of girls, is able to sow flax, he endeavours to do it, which, if it turns out well, is a great source of profit, as every individual of his family may be employed in the different branches of its manufacture, and there is a ready and continual demand for the produce of their labour. He generally sells the finer yarn at market, and manufactures the coarser parts for his domestic purposes.

Farmers

Farmers usually sow from one rood to an acre, according to the number in family; his wife, after supplying the house with all necessaries in table-linen, sheeting, shirting, facking, &c. has the remainder of the yarn for sale, as a perquisite to clothe herself and daughters.

Poor persons, who have not any land of their own, generally pay at the rate of six pounds per acre for the ground, in which they sow their flax, getting it ploughed and harrowed for that sum. The produce is about 240lb. on the best grounds, but about 180lb. may be considered as an average produce per rood.

Gentlemen, or persons, who do not spin or manufacture the produce of their flax themselves, can buy the yarn or linen much cheaper from the manufacturer, than they could grow the raw material, and conduct it through its various processes, paying for each; for although the poor should value their time, and add it to the value of the raw material, yet, as they have not constant employment, they do not reckon their time as of any value, in proportion to what they would charge if employed to work for hire, and they themselves do all the most materially laborious parts. They, in almost every instance, leave their own spinning, scutching, beetling, &c. for any employment at sixpence per day, which is a proof, that they do not consider themselves as earning so much at home; and yet they will charge this, if called upon, to do the same kind of work

work for another, as that, in which they were employed for themselves.

The account may be fairly stated thus:

<i>Dr.</i>		<i>£.</i>	<i>s.</i>	<i>d.</i>
Rent of one rood of ground, ploughed, &c.		1	10	0
Twenty-one pottles of seed, at 8 <i>d.</i> per,	-	0	14	0
Weeding, six women at 6½ <i>d.</i> each,	-	0	3	3
Pulling, eight ditto, at ditto,	-	0	4	4
Steeping, one car and horse; one man and one woman,	-	0	4	4
Lifting from the steep, and spreading; four women and one man,	-	0	3	3
Lifting from the spread, binding, and draw- ing home,	-	0	2	2
Drying; two kishes of turf, two women,	0	4	4	
Fourteen women, beetling or breaking fame,	0	7	7	
First scutching, at 6½ <i>d.</i> per bundle, 21 bundles,	0	11	4½	
Second scutching, at 3 <i>d.</i> per,	-	0	5	3
The produce of which is generally 240lb. if the flax is good. In hackling, one quar- ter goes to waste, one quarter to tow- leaving; 120lb. to be paid for to hackler, at 1½ <i>d.</i> per lb.				
Spinning 120lb. at 5 <i>d.</i> per pound,	-	2	10	0
Boiling 120lb. of yarn, at 2 <i>d.</i> per pound,	1	0	0	
Carried forward,		£.8.	14	10½
		Brought		

					£. s. d.
	Brought forward,	8	14	10½	
Weaving 180 yards of linen, each pound of					
yarn making a yard and a half of linen,					
seven-eighths wide, at 3d. per,	-	-	2	5	0
Spinning 60lb. of tow, at 4d. per,	-	-	1	0	0
Boiling ditto, at 2d. per,	-	-	0	10	0
Weaving 60 yards of dowlas, at 2½d. per,	0	12	0		
					<hr/>
					£. 13 2 4½
<i>Contra</i>	<i>Cr.</i>				
					£. s. d.
By 180 yards of linen, at 1s. per,	9	0	0	}	11 0 0
By 60 ditto, at 8d. per,	-	-	2		
					<hr/>
Loss sustained by the manufacturer,	£. 2	2	4½		

although the above charges are made as low as possible. If the flax is to be manufactured finer, the account must be taken up at the item *backling*, and one penny per pound added for every dozen, to which it is to be spun; the spinning too must be advanced; but as the above is the general routine of the business, it is the fairest way of stating the account.

Having mentioned this subject to a person, who had been in the habit of sowing flax yearly, he informed me, that some few years back he had resolved (from conviction of the very great difference in expence between buying the linen manufactured, and growing and manufacturing it) to keep an exact account of

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every

every expence, which he did, and assured me, his flax stood him, when hackled, in eight pence halfpenny per pound, and he could have bought as good, if not better flax, in the market of Kells, the same time, for four pence per pound, flax being that year uncommonly cheap.

The seed produced from imported seed, and from the first crop, if well saved, answers tolerably well; but the seed produced from the second crop, though looking ever so well, will not produce so well, decreasing in value every year it is sown after the first; one principal reason of which is, the uncertainty of the climate at the seed-saving time.

That produced, even from a first crop, often fails; therefore, the seed is seldom attempted to be saved, or, even if saved, seldom sown, except imported seed is very dear; home seed is sown in double quantity.

When flax is suffered to ripen its seed, it is considered to impoverish the ground much more than if it be pulled before the seed is ripe; the flax too is more harsh, as the oil, which if pulled green would be arrested in the rind, is drawn up to the seed, for which reason it has often been matter of surprize to me, that it was suffered to run to maturity as frequently as it generally is, as the flax becomes coarser; but it is avowed that, if it were pulled greener, the produce in flax would not be so considerable in weight; and as the
coarser

coarser kinds of yarn are those most in demand in this country, and invariably sold by weight, they must adapt their commodity to their market.

It often happens that, when a field is laid down for grass, there is some part of it laid down under flax, and this part produces the most luxuriant grass, shews the earliest spring the year following, and, if grazed with sheep, which are the greatest epicures of all animals, they are continually found on that part so laid down with flax, in preference to that laid down with any other kind of grain; this appearance of luxuriance, and early spring, is visible for at least two years. How then can it be said, that flax is an impoverishing crop? I know it is often attributed to the superior tillage, which the flax ground receives, that the succeeding grass crops shew so well; but this I must in some degree contradict, as I laid down a field, in the year 1799, part with flax, and part with barley, and gave the whole field the same tillage, weeding, &c. yet that part, which was laid under flax, still keeps up its superior appearance to the remainder of the field, and being mowed these two years past gave a proportionably greater quantity of hay.

Flax will not grow in succession, after flax, luxuriantly, but corn sown on rich strong ground, after flax, will have a better head, though not so much straw, perhaps, as that sown after corn. Poor stubble, well tilled, will produce the finest and toughest flax.

The ground, in general, throughout the county, is considered as of too rich a quality to produce such.

There have been some crops of hemp grown in the county, at different times, but few persons understand the various processes necessary to bring it to perfection; and to induce those, who do, to come from other countries, would be attended with an expence sufficient to deter the generality of farmers from attempting its growth. It may not be improper here to mention, that its culture, in almost every stage of growth, is so very similar to that of flax, as not to need a separate description.

About four bushels of seed are sufficient to sow an acre; the time for sowing, April and May, complete weeding is as necessary for hemp as flax; the male hemp will be ripe about the middle of August, when it should be pulled carefully, so as not to injure the female, which is known by its bearing seed, and must be left standing, for the purpose of ripening. The male hemp is steeped as flax, and in all succeeding processes treated in like manner. As the seed is the most valuable part of the crop, great care must be taken of the female hemp, which, when arrived at maturity, must be pulled, and tied up in bundles of about one foot in diameter, and placed standing with the seed towards the sun, to ripen still further for a few days. If the weather should prove wet, it should be housed loosely, as the rain injures the seed, though not the stalk.

stalk. The female is the most valuable part of the crop, independent of the seed, having a great deal more hemp, in proportion to the size of the stalk, than the male.

The variety of potatoes planted in this country is very great indeed, and chiefly consist of Spanish white, black, apple, copper, white eyes, white and red bucks, and cluster potatoes, together with several other kinds, called differently in different places. The Spanish white are an early kind, round shaped, and are grown principally by gentlemen, for early consumption, as they are disposed to grow soft towards Christmas, and early in spring are scarcely fit to be used. Their produce is not great, and they are very apt to degenerate, if too often grown in the same ground; about fifty sacks per acre, is the average produce on good land. The principal kind cultivated by the poor, from their excellent taste and good produce, are the blacks, which grow in almost any kind of soil, and are considered the best poor man's potatoe, as they are least apt to fail, and come in tolerably early; they do not, in general, grow to any great size, although I have seen them weigh one and a half pound, yet, when best for eating, they are about the size of a large hand-ball; when they exceed this size, the ground, in which they have been grown, has been too rich; of course, the potatoe is soft, which, in the estimation of the poor, is justly considered a great defect.

Eighty

Eighty sacks, containing about twenty-two stone each, is esteemed very good produce per acre, although there have been instances of one hundred and twenty, some say one hundred and sixty. I must acknowledge, however, I have never seen such; this kind is the least apt to degenerate, by being frequently sown in the same ground.

The principal excellence of the apple potatoe consists in its keeping well; it is a late potatoe, and I have often eaten it perfectly good in the beginning and middle of August. It requires a good, rich, fresh ground, and in such the produce is nearly equal to that of the black, but it is by no means so certain a crop, of course, seldom sown by the poor, except in such a quantity, as to procure a few sacks for summer consumption.

The copper potatoe was brought into this country, within these few years, by the late Dr. Maxwell, Lord Bishop of Meath; they grow to an immense size, and their produce, in good rich ground, is prodigious, but they will not succeed well in poor or worn out land.

In the year 1799, I procured two potatoes of this kind, which weighed 2lb. 2oz. These I planted in an asparagus bed, the produce of which weighed 5ft. 2lb. beside several, that were taken away by different persons from curiosity; they come in early, and are said to keep well, but very soon degenerate, by being frequently sown successively in one soil. They have a peculiar

culiar taste, which the poor like very much, and in so great demand were they, that they sold in the spring of 1801, for seed, at a guinea per cwt. Bog agrees extremely well with this species.

The white eyes are a large blackish potatoe, with the eyes white, which produces extremely well in good rich upland, or reclaimed bog; when grown on the latter, however, they are apt to contract an unpleasant taste, and frequently become sour.

The poor have been much in the habit of planting them, on account of their produce, which is in general greater than arises from the black.

The white and red bucks, together with the cluster potatoe, are grown only by gentlemen for the purpose of feeding cattle. Their produce is very great, being, I am informed, at the rate of one hundred and thirty sacks per acre, off good land; they are said to succeed tolerably on poor ground, and are considered the best kind to be sown on fallows, that are not dunged: great care should be taken, not to permit them to mix with the seed potatoes for house use, as they increase so fast, that the produce of one potatoe will be sufficient, in a year or two, to damage the seed so much, that it will require the greatest attention and perseverance to separate them effectually.

Eight sacks of potatoes is considered an ample allowance of seed for an acre, planting in the lazy-bed way, and six sacks when planted in drills; when the
seed

seed is large, there is commonly another sack added to the seed of an acre.

Drills are coming fast into practice for potatoe planting. The advantages in cheap planting, weeding, and landing, are obvious to every thinking person, and the superior tillage is a sufficient inducement to the practice, even though the operation was more expensive. The mode, practised in the neighbourhood of Navan, is both judicious and economical. The ground being ploughed with attention, and harrowed, is divided into beds by lines made with the plough, fourteen yards asunder; in the middle of this space, the dung is laid in heaps, as it falls from the cart, in such quantity as is deemed sufficient for that extent of the field: the cuttings of potatoes are equally placed in heaps, in this centre line of dung; and after the plough has made its first drill, the droppers of the potatoes take from the heap, and conveying the cuttings to the drill, in aprons, deposit them at nine or ten inches distance from each other. Immediately after the droppers, follow those who convey the dung, which is carried in small baskets from the heap, and scattered in due proportion in the drill, the person holding the basket under his left arm, and with a jerking motion, and the assistance of his right hand, distributing the dung as thick or light as it is requisite. This done, the plough follows, and makes two strokes, without placing either cuttings or dung, going down on the right,

right, and coming up on the left; on making a third, the droppers follow, and then the dung carriers, thus keeping up a regular course until the space is sown throughout. In this arrangement two men, besides the man at the plough, and two droppers, with three dung carriers, are required. One man stands at the dung heap, breaking and preparing the manure for the carriers, and the other man following those, and fixing the dug regularly in the drill; the droppers and dung carriers are generally boys and girls. Half an acre is planted in this way, with ease, in the day. Thus the field is let to remain for a fortnight, and then harrowed. As soon as the potatoe plants appear about four inches over ground, the mould is taken, by means of a drill plough, close from their stem, going up and down between each drill of potatoes, thus forming a ridge between, by which means the weeds are destroyed, and left to rot until it becomes requisite to land the potatoes, which is done by yoking one horse to the drill plough, as in the former process, and extending the mould board, so as to heap up the soil judiciously to the plants on either side.

The process of taking the earth from the plants is done with a plough without a mould board, and serves to weed and fallow the ground, preparing it in the best possible manner before the potatoes are landed. The potatoes are taken out of the ground, at the due season,

season, with great ease and expedition, by means of the plough, and boys or girls.

There are two methods of renovating seed potatoes, that have degenerated, by being too often sown in the same soil; the one is by propagation from the seed, growing in the apple on the stalk of the potatoe; the other by planting a few for seed in a reclaimed bog. The first method every one can adopt; the second is the more simple, though, perhaps, not in every person's power, from want of reclaimed bog to grow them in.

The method of propagating from the apple is, to gather a number, at the potatoe-digging season, from different kinds of potatoes, and by bruising extract the seed, which is washed in clear water; when the seed is separated, let them be put up in a dry place until March, at which time they should be sown in a rich bed of earth, and lightly covered: when the plants are about three or four inches long, they should be transplanted into drills (like those in which celery is planted) with a small ball of earth, and carefully landed every week or fortnight, whilst the stalk continues luxuriant. Their produce, in small potatoes, will be immense: I have frequently reckoned from eighty to one hundred on one stalk; these small potatoes will all grow, if planted the succeeding year, when many potatoes heretofore, perhaps, unknown, will be found of the number; few of the seeds sown produce after the kind they were taken from. The potatoes, grown on
bog

bog land, are invariably considered as the best feed for upland, and *vice versa*.

The very great scarcity of seed potatoes, these two years past, induced many persons to try experiments on the possibility of propagating a plenty of potatoes from seed procured from the potatoe, without injuring it materially, and saving a proportion of it, which, heretofore, was unnecessarily put into the earth. The result of an experiment tried by my neighbour, Mr. Gibney, of Dormstown, in the year 1802, may not be unacceptable to some of my readers, and is as follows.

He laid out six ridges, equally circumstanced in every respect, which he planted with a hundred and sixty plants each, viz,

	Seed.		Produce.	
	lb.	oz.	ft. lb.	oz.
Apple potatoes, cut in the common way, weighed - -	5	13	4	9 0
Scoopings, about the size of a large marble, weighed - -	1	15	4	0 0
Black potatoe cuttings, as commonly planted, ditto - -	7	10	7	4 0
Scoopings as above, ditto - -	1	12	5	8 0
Thin chippings of the eye, little more than skin thick - -	1	4	1	2 0
Shoots found in the potatoe holes in spring, not carefully transplanted, though covered too deep at first, only - -	-	-	1	2 0

The

The relative produce of the black and apple, planned in the common way, may very readily be conceived, from the above statement.

From the result of this experiment, Mr. Gibney, last spring, took two scoops from every potatoe used in his house, and planted them; the produce of which equalled the cut feed, and from the laudable motive of bringing plenty once more amongst the poor, he planted nine acres of potatoes, the produce of which he early in the harvest sent to market, and, in the course of a fortnight, by constantly selling to the poor at a penny per stone cheaper than the market price, he reduced the price of potatoes from 1s. 1d. to 5d. per stone. In almost all cases, and in every kind, the rougher the skin of the potatoe is, the drier the potatoe will be when boiled, the smooth skinned potatoe not being sufficiently porous to emit the juices contained in it; hence arises the practice of taking a chip off the rind of wet potatoes, previous to their being boiled. Steam is the best method of cooking wet potatoes.

Rape has been partially sown these many years in this county, but has become more general within these last six, than it was before. It is either sown for seed-ing cattle, or for feed, and, in some instances, it serves both purposes. It is grown with best success in reclaimed bogs, that have been burned, and its produce, in seed, is from eight to twenty barrels per acre; quantity sown, from five pounds to ten pounds. Its culture may

may be stated thus: when sown merely for seed, the ground, if upland, is prepared by two ploughings, and the seed thrown in, at the rate of ten pounds to the acre, in the months of July or August, without harrowing; the rougher the land the better, as the succeeding rains and frosts are thought to land the plants, by moulderling the clay from the lumps in the ground.

When the plants are very luxuriant, sheep are let in to feed on them early in spring; some prefer cutting the plants, and carrying them to the sheep in an adjacent field, or bringing them into an house, and thus feeding black cattle; the plants, by this means, throw out more shoots, than if permitted to remain uncut. Cutting and carrying off the field is considered the best practice (though not the cheapest), as sheep are said to do a vast deal of damage to the plants, by wounding their bark, and lying down on them, which injury is obviated, and every purpose of increasing the seminal shoots is served, by the cutting.

The poorest parts of the farm may also be greatly enriched, by having the rape fed on it by sheep for any length of time, and the sheep will thrive as well, if not better, than when let in on the crop.

This is the mode, in which rape is said to be grown, both for feeding, and producing seed, for which purpose it should be sowed early in July. Rape is often sown in the latter end of August, and beginning of September, with success for seed; but the plants are seldom sufficiently

sufficiently strong, to admit either the cropping of sheep, or the cutting; then it is said to be sown for seed only.

I now come to the mode of culture, when rape is sown for the sole purpose of feeding black cattle, in which case it is generally transplanted. The process is begun by preparing a small piece of ground in the month of May, and sowing rape-seed, at the rate of about ten or fifteen pounds per acre, in the month of May, merely for the purpose of raising plants. If the ground, intended to be planted, is bog, or sea bottom-land, it is lightly skinned, and the fods, when dry, collected and burned, the ashes of which are spread over the whole field evenly, and ploughed in. If the ground be upland, a good fallow, with manure or yard dung, is the preparation. The plants are often drawn, and laid in a bed for a week or ten days, preparatory to their being transplanted, which is considered a good practice, as, by this means, the tap-root is checked in its growth, and lateral shoots are encouraged, which are esteemed the most proper for conducting nourishment to the plant. Almost every person has a different method of transplanting rape; the most usual mode, however, is (the ground being first well prepared) to plant them with the plough, from the middle of July to the middle or latter end of August: when the field is level, the plough, drawn by two horses, opens a drill, in which boys and girls place the plants, about one foot asunder, and another plough covers the same,
either

either drawn by one horse, or by two, one going before the other, so as not to dislocate the plants. The opening plough should go pretty deep. These ploughs, when they go to the bottom, turn to the right, come up on the other side of the drill, at about two feet and a half or three feet distance, making another drill, and so on until the field is planted.

A plough with a double shell-board is often run between the drills after planting, for the purpose of setting the plants perpendicular, as, from this mode of planting, they have an inclined direction, which, however, does not injure their growth; six girls, and two ploughs, if well attended with plants, will easily finish an acre in each day.

The ground being first well prepared, the expence of transplanting an acre may be estimated as follows :

	£.	s.	d.
Four girls, drawing the plants, at $6\frac{1}{2}d$ per day, - - - - -	0	2	2
One boy, car and horse, carrying ditto, - - - - -	0	1	$7\frac{1}{2}$
Six girls, laying the plants before the ploughs, - - - - -	0	3	3
Two boys, dipping the plants in mud and water before planting, - - - - -	0	1	1
Two ploughs, with two horses each, and one holder, - - - - -	0	6	6
One plough landing, with one or two horses, - - - - -	0	3	3
	<hr/>		
	£.	0	17 10 $\frac{1}{2}$

Great

Great advantage has been found from dipping the root, in dry weather, immediately previous to their being put into the ground, in good fine mould and water, mixed up thinly together. I used mud from the bottom of a stagnant pool, with very great success. My rape, thus treated, although transplanted in the most scorching weather of July, and in a dry upland fallow, was the most luxuriant crop in the country. Ground, whence flax has been pulled, is often manured, and planted with rape. Mr. Rothwell, of Rockfield, this year (1801) transplanted some into his barley stubble, having first dunged it, which have succeeded tolerably well.

I have heard of persons who, in order to procure a good feed for their cows when yearning, sow rape-seed, in the months of July and August, through the standing corn, which the reapers trod into the ground when cutting the corn. But this is seldom or never attended with advantage; in rich and clean grounds it may succeed tolerably well; but, if either dirty or poor, the seed seldom grows until the succeeding year, and then to the injury of the corn crop; therefore it ought never to be sown, except when fallow is to succeed it.

Red clover is often sown, as a renovating crop, on poor, light, gravelly grounds, and is coming more into general adoption every day; even the common farmers acknowledge its advantages as a crop, particularly on those grounds, that have been reduced by continued tillage.

tillage. It is generally sown with barley or oats in spring, and often in the standing wheat in the month of April or May; some sow it so late as June, but, if a continuance of dry weather succeeds the sowing, as is often the case, the seed is lost. Clover-feed is considered to answer best, when sown under the last harrow of the spring crop; it is then covered enough, but not too much; when sown in land laid down with grass-seeds, about fourteen pounds, together with from five to ten barrels of hay-feed, is sown to the acre; if sown by itself, twenty-one pounds. From some experiments, that have been made, it appears, that the produce is diminished by too great a quantity of seed.

White clover is seldom if ever sown, except when the land is laid down for pasture, and then generally at the rate of seven pounds of it, and seven pounds of red, and hay-feed as above. The land is required to be cleaner for it than for the red, and it does not produce near as luxuriant crops; but being perennial, and the red but a biennial plant, it is, of course, much more prized.

Red clover succeeds well, even on poor gravelly ground, if well tilled and clean; but it is considered as fruitless to attempt sowing it in dirty land of any kind; the white requires a richer soil.

Trefoil is very much sown in the baronies of Dunboyne and Ratoath, and is said to repay the farmer very well. The ground need not be so clean, or so rich for

it; as for clover, although the best crops are produced from those in the cleanest state. It agrees best with a dry, gravelly soil, on which it is often found growing spontaneously, particularly if the gravel partakes, in any degree, of the nature of limestone, yet it often produces good crops from clay; when sown in ground laid down for grazing or meadow, seven pounds per acre are added to the above quantity of clover, &c.

The feed is generally from 20s. to 30s. per cwt. cheaper than red clover, and the red in the same degree cheaper than white, and all extremely fluctuating, being from five, to seven, and eight guineas per cwt. The feed is never saved in this country; its produce the first year, in good clean ground, is astonishingly great. When red clover is sown by itself, it is commonly eaten off by sheep and horses the first year, and in the summer of the second, after being pastured for some time, it is ploughed in for wheat; though some farmers plough in the second crop without feeding it, and some the first.

When clover is sown with grass-seeds, it is often grazed, until the month of May following, by sheep, and then shut up for meadow, and mowed; but this is generally considered to be a bad practice, as the sheep are said to pull the clover out of the ground, before it is sufficiently rooted. Those, who follow the above method, say, that sheep only eat the top leaves of the plant, and that it stools the better for being thus eaten.

eaten. The most general practice, however, is, to shut up the field as soon as the corn is drawn home, and not to suffer any beast to feed on it, until after it is mown the succeeding year. Sometimes two crops are mown, but the best farmers cut only once, and feed off the after-grass: this first crop is generally kept until the following spring, and then threshed for seed, as some of the clover-seed will inevitably fall in the threshing.

The practice of having clover mowed every day, and eaten in the farmer's stable, at dinner-hour, by the working horses, is coming fast into use. Added to his procuring thereby an incredible quantity of dung, the horses are capable of doing more work, and are kept in better condition, than if turned out under the scorching rays of the sun, from which to screen themselves, and from their continual tormentors, the flies, they waste that time in seeking shelter, which they otherwise would spend in feeding.

SECT. 5. *Crops not commonly cultivated.*

The crops not commonly cultivated are turnips, vetches, grey and white peas, beans, cabbage, and, in some instances, chicory.

These, though not in general grown by the farmers, are profitable, when properly managed.

Turnips are only met with on the farms of gentlemen, who unite grazing with tillage, and are sown mostly for the purpose of feeding sheep, though they are sometimes applied to the purpose of feeding black cattle, in which case they are sliced with a machine, and given in the house, the cattle being tied up. When they are applied to the feeding of sheep, they are given in the fields whole, with their tops, as they come out of the ground; some fold sheep on them, but this practice is not prevalent.

The principal kinds sown are the red and white Norfolk, which grow, with care, to an immense size. Mr. William Martly informs me, his were from five pounds to fifteen pounds weight last year; the quantity of seed, per acre, two pounds, and the produce, on good ground well hoed, from twenty to fifty tons. I have heard of sixty-five tons per acre:* in general they are sown broad-cast, and hand-hoed. Swedish turnips, or Ruta-baga, have been introduced into this country within these few years; they have not, as yet, been generally adopted by turnip-growers, but bid fair for that honour, as their properties of standing the winter well, and their being very easily kept, are advantages too striking to be overlooked by the feeders of stock.

These

* Turnips sown in drills sixteen inches asunder, and the plants eight inches asunder in the drills; if the turnips weigh one pound and a half each, which is not an uncommon average, the produce upon the acre will be upwards of fifty tons.

These require to be sown in May, or the beginning of June; if later, they seldom turn to much account. If, however, they are sown in the beginning or middle of May, in a rich bed, and transplanted by the end of June, they are found to answer extremely well; one rood will supply plants for ten acres. In selecting turnips for seed, great care is necessary; those that have thick necks, smooth skins, and round shoulders, should be preferred; the seed from these invariably produces the best turnips.

Sir Francis Hopkins (to whom I am indebted for this information on the subject, and who has long been in the habit of growing green crops for wintering stock) assures me, he has found the greatest benefit arise from this selection of his seed plants. Some have, of late, practised the drill husbandry in the growing of turnips, in which case they are landed with the plough, and thinned by hand, but this practice is not prevalent. Two great advantages attend drilling turnips, that do not arise when sown broad-cast; the one is, the ease and cheapness of cleaning and setting the plants, at proper distances (hand-hoeing not being practised or understood by the labouring men of this county); and the other is, the great saving in manure thereby obtained; one load going as far in the drill husbandry, as three when sown broad-cast.

Vetches.—The culture of vetches has long been partially practised by the farmers of this county, particularly

early in the barony of Dukeek, chiefly used as winter feeding for the work-horses, and, in such case, cut before they are quite ripe, made up, and given as hay.

Some, who permitted them to grow more ripe, were in the habit of shaking them, and preserving those grains, that fell out, for seed; others allotted a certain part of their crop for seed, which they permitted to ripen fully; and all those, not required for their own use, were easily disposed of in Drogheda market.

By those farmers it has been sown merely as a spring crop, and for hay; their time of sowing February, and early in March.

Winter vetches, until within these three years, were scarcely known in this county; indeed they are but partially known even now; yet, I think, two or three years will make a vast difference in the extent of their culture, if I may judge from the avidity, with which the seed is purchased; and the vast advantage the grower will reap from them.

The quantity sown, per acre, is from twelve to eighteen stone, according to the state of the ground, and time of sowing. If the crop be sown for feed, and put in early, ten stone per acre answers; if for soiling, in the month of February, sow twelve, in March fourteen, in April sixteen, and in May eighteen stone per acre. Time of sowing winter vetches, August and September, at which time ten stone will answer, increasing

as above, as the sowing is postponed.* They ought not to be sown after the first of November, as they do not thrive, if too weak, when the frosts set in.

Mr. Grainger, of Causestown, last year, grew vetches on a very extensive scale, which he cut, and had carried into his hovels, with which he fattened cows. I saw his stock at different periods, during the time they were tied up, and witnessed the different stages of improvement, as they advanced. Nineteen, in particular, that were measured according to the weigh-book, increased, in one fortnight, forty-five stone. I shall here state what he mentioned to me, in answer to my queries, as the best information I can give on the subject.

“Last summer I sowed twenty-five acres of vetches; they fed, on an average, forty cows, and five horses, from the first of July to the latter end of September, eighty-eight days. I could have sold these cattle to great advantage, from their forwardness, the latter end of August; sold thirty in the fairs of Navan and Kells, at upwards of 120*l.* profit, which nearly pays for all expences: when the vetches were all consumed, I turned out the remaining cattle to after-grass.”

“These cattle were tied up in hovels, allowing plenty of straw for litter, and were constantly supplied with fresh cut vetches ten or twelve times a day; the refuse

* Winter vetches require a warm, dry soil, and, if sown after the middle of September, the ground should be *rich*, or, if not, it should be manured; if sown later, they fail. D. B.

refuse cleared away, and given to young cattle, and some working horses, not included in the above calculation; they were supplied with water in their stalls, but, in general, drank but little. Particular attention was given to the dunghill, which measured, on finishing the experiment, 1470 cubic yards. How shall we value dung? suppose 18*d.* per cubic yard, according to Arthur Young.* This amounts to 110*l.* 5*s.* and will cover a great extent of land. As vetches will grow on poor, light land, what an advantage must it afford a spirited improver, settled on a mountainy or a light farm, if bog is convenient? the turf-mould will supply bedding for his cattle, and help to rear a large fund of manure. Thus, whilst he is rivalling the best lands in feeding stock, he is raising a constant supply of the richest dung for the improvement of his farm."

"The expensive and unproductive fallow disappears, and gives way to the luxuriant green crop; and the farmer, on a level with the grazier, rejoices that his green fallow is as productive, as the fruitful plains of Ardbraccan or Oatlands."

* Vide Agricultural Magazine, Vol. I. page 102.

OF THE COUNTY OF MEATH. - 201

The expence and profit are as follow:

	<i>£. s. d.</i>
* Nineteen barrels of feed vetches, for	
twenty-five acres, - - -	59 17 0
Ploughing and harrowing ditto, at 15s.	
per acre, - - -	18 15 0
Mowing, at 6s. per acre, - -	7 10 0
Six short scythes for ditto, - -	1 10 0
Two cars, horses, and boys, at 1s. 1d.	
each, for 88 days, - - -	9 10 8
Two men attending cattle at 10d. per, 88	
days, - - -	7 6 8
Two boys at 6½d. per, ditto, - -	4 8 0
Ninety loads of straw, at 6s. per load,	27 0 0
	<hr/> £. 135 17 4

Sold at Navan and Kells, thirty *£. s. d.*
cows, which paid nett profit, 120 0 0

By value of feeding the remain-
ing ten cows for 88 days,
which may fairly be stated
three months, at the rate of
2l. 10s. for half a year's gra-
zing, commonly paid in the
country, - - - 12 10 0

Brought forward, *£. 132 10 0*

Brought

* The feed, in the above account, is a heavy article of ex-
pence; I had all mine to purchase this year at a very high
price. I shall, in future, rear my own feed; two acres of in-
different ground will produce sufficient feed to sow the above
complement of ground. J. M. G.

£. s. d.

Brought forward, 132 10 0

By feeding five horses for three

months, at 11s. 4½d. per horse

per month, - - - 8 10 7½

1470 cubic yards of dung, sup-

pose 1s. per, - - - 73 10 0

————— £214 10 7½

Deduct expence - - 135 17 4

Nett profit of twenty-five acres of land,

that would have been otherwise unpro-

fitable fallow, upwards of 3s. per acre, £78 13 3½

“The extraordinary drought of this year operated much against a green crop for soiling. I began to sow as early as February, and continued my sowing until June, in order to have a succession of soil; the late sowed vetches suffered particularly from the dry weather; in fact, they never attained the bulky luxuriance so peculiar to vetches, but, on the contrary, ripened into an immature and stunted seedness, without ever attaining their usual growth: of a dropping season, I am confident the same extent of ground would have fed a larger stock for a much longer time; it is surprising what an effect a shower of rain has upon a crop of vetches.”

“I have charged no rent in the above account, as the ground would have been in dry fallow, but for the vetches;

vetches; wheat is always chargeable with two years rent, and my acres are all sown with winter corn.

I remain, dear Sir,

Yours sincerely,

J. M. GRAINGER.²²

Caulsbourn, 1 Dec. 1801.

Mr. Grainger, in this instance, did not give the vetch system a fair trial, having bought his cattle in the month of May, in good order; he put them to feed on ground, where there was little or no grass; they fell away considerably before July, the time he first began upon the vetches, so that, though they stood him in more than their prime cost, at the time they began to feed on vetches, yet, in reality, they ought not to be rated so high; if he had vetches ready, immediately after he bought them in, he must have made considerably more profit, as beef, in July and the beginning of August, at which time they would have been fat, rated much higher than it did at the time he sold, and the transition from dry to green food would have produced a quicker effect on the cattle, and a lesser quantity would have made them equally fat.

He has, however, a good crop of winter vetch for this year's (1802) consumption, which promises to be early in; some sown by the drill machine in alternate rows with rye, and some without rye.

Mr. Grainger also, last year, sowed some chicory, which succeeded very well, and he this year sowed sainfoin

sainfoin and lucerne; he has thirty acres of green food this year, in three acres of which he has at present the third green crop in succession, growing within one year, viz:—transplanted rape, eaten off by sheep in April, sowed in the latter end of May with spring vetches for soiling, and as soon as the vetches were cleared off, the ground was again ploughed, and sown with winter vetch and rye, which, at present, look extremely luxuriant (May 1802). For a treatise on vetches, see Appendix, No. 7.

Grey peas have been sown these many years, all through the county, upon poor gravelly soils, and sometimes upon clay with success. They have been, invariably, let run to seed, and then pulled with a crooked stick, bound in sheaves, and brought to the haggard when dry, after which, they are either threshed, and the straw used as litter, or are given as hay to horses, without being threshed; horses thrive remarkably well on them. This last method is practised in those parts of the county, where meadow land is scarce. When the seed is threshed clean out, it is sold in market for the purposes of feeding pigeons, or mixing with barley or bere meal, for the use of the poor, at the rate of from four to six stone of peas to each barrel of barley or bere. They are invariably sown broadcast; the quantity of seed is from twelve to sixteen stone per acre, poor ground requiring more seed than rich.

The

The produce, on good ground, is from six to ten barrels. They are generally sold at the average price of wheat, twenty stone making a barrel, as in wheat.

White peas are very seldom sown, except in Duleek barony; they are let to ripen, and are sold in the market of Drogheda, for the purpose of being split for making soup, &c.; they sell at somewhat a more advanced price than grey peas, but do not in general produce so well; many, who were in the habit of sowing them, have discontinued the practice.

Duleek is the only barony, where beans may be said to be cultivated, and even these not to any great extent. A few, however, do grow them, and their produce is sold in Drogheda market.

Cabbages have, these many years, been cultivated by Sir Francis Hopkins, near Athboy, for feeding cattle, and, I am informed, have succeeded very well. Their expence, however, in transplantation, and the difficulty of preserving them from the depredations of the poor, are strong bars to their general cultivation. The best cabbage plants are raised on bog or bottom land, that has been skinned and burned, and the seed sown in August. These are sold the spring following, from 3s. 3d. to 6s. 6d. per thousand, according as the winter has been severe, or soft, thereby creating a scarcity, or plenty of plants in the market; an acre of plants has often produced £.60, I have heard of £.100, when sold for garden uses. The large drum-head, or flat Dutch,

Dutch, are the kinds principally planted, one hundred of which will generally plant two perches square of ground; they grow to an immense size.

Suppose 12 pounds each; the produce, in weight, of an acre, would be upwards of forty-two tons, allowing fifty on a perch square.

CHAR.

CHAP. VIII.

GRASS.

SECT. I. *Natural meadow, pasture, and marsh land.*

HITHERTO the quantity of artificial grass, sown in Meath, was small indeed, compared to the vast tracts of ground producing natural grass, and under fattening cattle, in the occupation of the different graziers; the depth and richness of the soil, predominant through almost the whole of the county, and its tendency to moisture, without being absolutely wet, making it throw up such a coat of nourishing grass as is scarcely to be equalled in Ireland. In many parts there are certain tracts of land, which far exceed any thing of which we can boast; amongst such, may be considered the Golden vale in Tipperary, and the Corcas land in Limerick. But in no part of Ireland can be produced 327,900 acres of ground, the contents of this county, situate together, of so excellent a quality, and so very appropriate to every purpose of tillage and grazing, as the county of Meath. It is, generally speaking,

speaking, more friendly to the latter than to the former, and in grazing it was almost wholly employed, until, through the exertions of the Right Hon. John Foster, late Speaker of the Irish House of Commons, the corn laws were enacted, which insured a constant and regular demand for corn, and induced a great many, who, before that period, invariably grazed their lands, to break up, and turn into tillage, large tracts of ground, which had not for some ages felt the iron hand of the husbandman, or been "crowned with the sickle and the wheaten sheaf," so that instead of having three-fourths of the county under grass, as heretofore, not more than about two-thirds is at present so occupied; and every day offers new inducements to increase the quantity of tillage, by the new lights that have been thrown upon husbandry, and the adoption of green crops for stall feeding, even in the summer months.

Those farms, that are occupied in fattening cattle, yield a luxuriant coat of natural grasses; the nature of the soil being of the best quality, the species of grasses are also of the best quality. The superior excellence of our beef over that of any other county, and the very great proof (as the inside fat is by the butchers termed) of cattle fed in all parts of it has made Meath proverbial for its feeding. All the old pastures are composed of natural grasses, and consist of a great variety of the best kinds. The graziers seldom think of procuring any particular species, from an idea, that land
after



VACCINIUM OXYCOCOS



ANTHERICUM OSISITRAGUM



DROSERA ROTUNDFOLIA



ANDROMEDA POLIFOLIA

after three years, will revert to and produce its natural grass, even though another kind had been sown at the time of laying down.

All those natural grasses, which the soil produces here, in common with other countries, have been already so well described and delineated in different surveys, that I think it unnecessary to trouble the Society either with descriptions or plates; I therefore pass them by, to mention a few plants, that are abundant here, and may not be so generally the produce of Ireland, and of which representations are figured in the annexed plates. The *vaccinium oxycoccus*, craneberry or bogberry, runs along the surface of the bogs, and binds the loose earth with its fibrous roots; the flowers, though small, are beautiful, and the fruit is well known for its culinary use. The *oxalis acetosella*, or wood forrel, is a very elegant little plant, which covers the shady sides of ditches with its beautiful verdure and white flowers, in May and June; for its chemical virtues, see "Withering's Botanical Arrangement." The *anthericum ossifragum*, or bastard asphodel, and *drosera longifolia*, or sundew, are both natives of our bogs; the latter presents a very curious appearance to the observer, as its stalk and leaves are covered with a glutinous substance, by which, when flies or other small insects alight upon it, they are fastened as with birdlime; at the end of those slender threads or hairs, which surround the leaf, are receptacles of

this

this gummy substance, and when the insect alights upon the leaf, these hairs turn over him, and keep him enthralled till he expires. In small lakes, in some of these bogs, are to be found the *nymphaea lutea*, and *nymphaea alba*, the yellow and white water lillies; the latter is a plant of peculiar beauty, but too large to admit of a representation here. The *erriophorum polystachion*, or cotton grass, presents, both in its name and appearance, a fair subject for experiment, as the fine down, with which the seed is enveloped, might probably, in the hands of the spinner, produce a new and elegant species of manufacture; it is to be observed, that the down is not attached to the seed, as plumed seeds have it, but the seed lies loose in the bottom of each tuft. The *andromeda polifolia* does not appear in the garden, where it has been transplanted as an ornament, in half the beauty as on its native moor. There are various other plants of usefulness and beauty, native in this county, but fearful of trespassing too far on the attention of the Society, I proceed to the more profitable part of the vegetable kingdom.

The nice, dry, warm, gravelly soils of the county throw up a luxuriant coat of white clover, even though there may not have been any seed sown, and grounds rather inclined to clay, when drained and manured with limestone, gravel, often shew a disposition to it also.

Natural

Natural meadows are to be met with in abundance through almost the whole of the county, and few farms, of whatever size they may be, are without a sufficiency for their own use. When it so happens, that they have not enough of their own, the farmers agree for a crop from the most convenient farm, as much as they may require, at the rate of from four to seven guineas per acre, according to its quality. If these farmers could be persuaded to adopt the vetch system for meadow, it would save them an immense expence in the year, both in labouring their fallows, and in rent of meadow land. When good upland hay can be procured, it is generally preferred to that of bottoms; it is more nourishing, and of a better quality; it comes in earlier, and can be better saved than the bottom grass, which is too often composed of flaggers, sedge, rushes, and other coarse productions of low lands, which all go to waste in the foddering yard; most part of the hay of Meath is produced from upland meadow.

When land has been laid down with grass seeds, after having been under tillage for any length of time, it is appropriated to the feeding of sheep, or if not fit for that purpose, it is left for the rearing of young cat- from three to seven or eight years, according to the degree of heart the land is in at the time it is so laid down; few farms being capable of feeding black cattle to fat, sooner than the fifth or sixth crop; and many graziers will argue, that there is hardly any ground,

that will fatten cattle so as to *prove* well, sooner than thirteen or fourteen years, some say twenty. Yet land is thought to feed more cattle of any description the first than the second year, after being laid down, and that it declines the third and fourth years, after which it improves gradually in strength and luxuriance, the longer it is kept under grass.

The marshes of Rosmin and Emla, in Kells barony, are the only ones in the county, of extent sufficient to deserve particular notice, though there are many smaller scattered up and down, which are principally employed in rearing young cattle, being somewhat improved by draining. Those of Rosmin and Emla are nearly in a state of nature, and are covered almost through the whole of the winter with water, from the overflowings of the river Borora, which runs through them. In summer, they throw up an immensity of grass, and are chiefly employed in feeding horses, which are taken in to graze, at the rate of half a guinea per month. These marshes have been already noticed, under the head, *soil and surface of Kells barony*.

SECT. 2. *Artificial grasses.*

THERE are not any artificial grasses cultivated in the county, except clover and trefoil, and the culture these receive is particularly specified under the head of
crops;

crops; hay or grass seeds, sown in land that has been under tillage for some years, may be considered as artificial, though the seed sown is generally produced from the sweepings of hay-lofts, or threshed from hay grown the first or second year, after being laid down with, perhaps, seed so produced.

As beasts are considered by our graziers to thrive best on the grounds, that produce the greatest variety of grasses, so their object, when about to lay down land for feeding, is to procure the greatest variety of hay-seeds of the best quality; for this purpose hay-feed is collected from different people, and all mixed together, and sown at the rate of from five to eight or ten barrels per acre; some also add 7lb. of white and 7lb. of red clover-feed per acre, in which case there is the smaller quantity of hay-feed used. Others sow clover at the rate of 21lb. per acre, half of white and half of red, without any hay-feed, and think that the land will throw up its natural grasses more luxuriantly the third or fourth year, than if it was sown with hay seed, perhaps, uncongenial to the soil.

Many common farmers exhaust their land by repeated and ill-judged crops, until it will not yield as much in produce, as was sown in the ground, and then let it *rest*, as they term it, or, in other words, leave it covered with couch-grass and all kinds of weeds, a disgrace to the owner, and an annoyance to the surrounding neighbourhood.

The

The first crop, after land has been sown with grass-seed, is often mown for sale of the seed; but the more general practice is, to feed it the first year with sheep, and mow it the second.

The feeding the first crop with sheep is considered to contribute to stock the ground, the nipping of the sheep making the plants stool, that would, if permitted, grow up in a single stalk; some grounds are prone to the production of the perennial vegetation; why might it not be encouraged?

The hay produced from the first crop, after land has been laid down, should be cut before it is quite ripe, else it becomes harsh, and the nourishment leaves it; if it be cut before it is ripe, the seed, which is considered the most valuable part of the crop, becomes useless, but if cut before the seed is formed, it is not only better, but the vigour of the plant is exerted in *stooling*, and the sward will be much closer and better the next year, than if let run to seed. It is then a question with the farmer, whether it is the hay or hay-seed he most prizes.

SECT. 31. *Haymaking.*

THE process used in saving the hay of this country is justly reprobated by almost every person of skill and judgment; its substance is most commonly wasted, and
its

its colour bleached away, by the tedious process of drying, &c. from the time it is first cut until it is drawn home: yet the farmers, who practise this mode, assert, that the grass of this country has so much sap in it, that it requires a superior quantity of drying, to prevent its heating in the rick, and deduce an instance of a former bishop of Meath, who pursued the English mode of hay-making, the consequence of which was, that about sixty ton of his hay took fire at a certain time in Ardbraccan haggard.

There are many instances of persons making their hay in lap-cocks, after it has been cut about a day, and turning these lap-cocks, in broken weather, every second or third day, until fit to be tramped; but the most usual mode is as follows:—

The early upland meadows come in from the first of July to the first of August, and continue from that period to the latter end of September, according to the degree of heat, or moisture of the ground, on which they grow; the day after the hay is cut, generally sooner, it is spread equally over the surface of the field, for two or three days, and in broken weather, perhaps, for a week or ten days, turning it as often as necessary, to prevent its growing yellow by the wet. In dry weather it is raked the second day into wind-rows, and made into small-cocks, in which state it often lies another week in wet weather; in dry weather it is carried on forks by men into plots, and the small cocks placed

at

at certain distances asunder in the field, at which time it is shaken out, and turned several times, until perfectly dry, when it is put up into what is called a tramp-cock, containing from one half to one ton each, in which state it lies until September or October, perhaps November, and then it is brought home, and put together in large cocks.

In dry seasons, hay is generally tramped in about six days after it has been cut, and, in a broken harvest, it is often from twelve to sixteen.

Clover requires a great deal more drying than common grass, and, after mowing, every two swaths are shaken together, turned, and, after a couple of days, these swaths are put into small cocks; every two rows of cocks are then shaken together, and so on, increasing the size of the cocks, until the hay becomes dry enough to be tramped, after which it is treated, in every respect, in like manner as other hay. Vetches, when made use of as hay, are treated nearly in the same manner as clover.

Heating in its own sap, is considered as beneficial to hay; but heating, from a superabundance of external moisture, is considered as injurious to a degree. In a broken hay-harvest, the cocks in the haggard are made smaller than they would be, should the season be dry, and air-holes are made through them in several places; but in a dry harvest these precautions are generally omitted.

Mr.

Mr. Morris has long railed tubes, composed of four sides, and about two feet wide, somewhat resembling four ladders fastened together; these he builds into hay-cocks and corn-stands, letting them remain there until the hay is used, and the corn threshed; when he lays them aside for the like purpose another year. Many farmers, in gathering their hay to tramp in the field (a practice universally adopted), use a horse with a swingletree, and harnessed as if in the plough; to one end of this swingletree a cord is fastened, the other end of which is brought round the small cock, and fastened to the other end of the swingletree; and in this manner the horse draws the small cock, sliding on the ground, to where the tramp-cock is intended to be made. This is an expeditious and good practice.

Thomas Rothwell, of Rockfield, Esq. makes his field *tramp-cocks* very small, and, when drawing home his hay to the haggard, he yokes six bullocks, as if in a plough, and drawing a very long and strong chain round the bottom of the cock, close to the ground, he fastens a hempen rope to the chain in front, and, drawing over the top, fastens it to the chain at the back of the cock, to prevent the chain from slipping between the cock and the ground; the bullocks are then set in motion, and draw the cock in the same state, in which it was in the field, without leaving any on the ground, or creating waste in any manner; nor does the bottom of the cock receive gravel or dirt, as might be supposed,
even.

even though drawn over gravelly roads; little rollers of hay being formed on the path, after two or three cocks have been so drawn, that keep the hay-cock off the ground, and facilitate the draught, which is very great at first. Six bullocks, in this way, will bring home more hay from a convenient meadow, than four; perhaps six pitchers, can possibly attend in the haggard. The after-grass is not injured by car-wheels, nor the hay wasted by dropping from the ears, or by bad tying upset, and the tops and butts of the cocks are taken clean away, without trouble; after a week's constant drawing, the waste made in this way, including butts, tops, rollers, &c. did not amount, at Rockfield, to one car-load.

SECT. 4. *Feeding.*

THE first week in May graziers generally open their pastures for the admission of the summer stock, which are intended to be fed to fat, as this is more a feeding than a breeding or rearing country; the lands being generally too valuable to be employed for the latter purpose, the graziers are under the necessity of going to other parts of the kingdom for the major part of the cattle fatted by them. These beasts the graziers buy at different fairs; some in Connaught, some in Munster, and some in the neighbourhood: when brought home, they

they are generally bled, after which they are turned out into the fields where they are to feed, and suffered to remain there until fat, each field being stocked, almost from the beginning, with its full complement. They are then sold, either in Dublin-market, or in the neighbouring fairs to buyers from the north of Ireland, or from different parts of England.

The buyers from the north of Ireland either purchase for home consumption, or (which is most commonly the case) for barreling to supply the navy. Those bought by Englishmen are exported, and, I am informed, driven into different parts of England: a considerable proportion of those, sold in Dublin market, is for the consumption of the metropolis.

Immediately after the first week in September the slaughtering season commences, after which Dublin is generally the worst market, and the northern buyers are then considered the Meath graziers' sheet-anchor. Their custom is preferred, because it exempts the grazier from commission, and the expences of driving, &c. which are heavy taxes on his profit.

There are many graziers in this county, who feed to fat from three to five hundred cows in the summer season, beside numbers of bullocks and sheep. The cows are, in the months of April, May, and June, according to earliness of the season, bought in, sometimes singly, from poor persons, who have milked them the summer before; these are termed dry cows; whilst others

others buy lots of heifers, that have missed being in calf, and are half fat. Such of them, as are in the best order, are put into the most forward grass, and are fattened, and sold in Dublin market in the months of June, July, and August, at which time beef sells higher than at any subsequent period.

Many of the more backward heifers are withheld from the bull until the beginning of August, and are kept over for the spring market in Dublin, provided they fatten; if they do not, they are sold springing, in the month of May, to dairymen. Some graziers put a few sheep, generally pets, to feed amongst the neat cattle; but this practice is reprobated by others, from a supposition that it injures the *proof* of the beasts, as the sheep feed on the sweetest grass; of course it ultimately hurts the grazier, as the north-country butchers avoid those graziers, whose beasts do not *die well*, as they term it, and are sure to deal with those, who are known to have good *proof* beasts. In a falling market this character is peculiarly useful, as many graziers, whose beasts have the name of dying well, will be thereby enabled to dispose of them to advantage, whilst others will be obliged to send theirs to grass again, very much to their injury, both with respect to the additional keep, and the disadvantage the beasts sustain from being driven.

The northern buyers know the proof of the land of almost every grazier, from whom they buy.

Bullocks

Bullocks are fed in great abundance in this county, and bought in at all seasons of the year, according as the grazier finds, that he has keep for them. Those, bought in at May, are often fatted, and sold before Christmas; if not, they are kept up, commonly on hay and old grass, and, in a few instances, on rape, turnips, or potatoes, and by the distillers on hog-wash, until the month of March or April, perhaps May, and are then sold in Dublin market.

Those, fed by the distillers, arrive at an uncommon degree of fatness; and, though their beasts are bought by the butchers, in preference to those fed by the graziers, because they weigh heavier in proportion to their size, yet the beef is not so well relished by the consumer; it generally has a very unpleasant taste, and, though juicy when bought, it is yet dry on the table, the fat melting away in the cooking; and, if salted, or pickled, it melts away in the curing.

Those, who rear young cattle, buy them in the neighbouring fairs, at from two to six pounds each, at a year old, and keep them, during the summer months, either on coarse bottom-land, if they have such, or upon newly laid down ground; and in the winter months they are inclosed in yards, and fed with straw until the May following, when they are again turned out, and treated in like manner the second year, perhaps for the third year also.

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If they consist of heifers, the first week in August, after they are two years old, a bull is left amongst them for a fortnight; all that take him at that time, are sold the May following, springing, but those that do not take him, are held over another year; if well wintered, perhaps they fatten, and are sold in the spring, when rising four years old; if not, they are sold as springers at four years old, at which time they bring a great price.

If the young stock be composed of oxen, the grazier feeds the two first winters on straw, and the third he gives them hay on the grass; in some coarse bottom or upland, where there is a good stock of old grass and shelter.

By some it is considered the best practice, and, of course, most generally followed, to turn out the yearling cattle into the grounds, where the summer's stock was fatted, immediately after the stock has been sold off, and there kept until they have eaten the grass quite hard, at which time they are brought home and housed, or kept in some close yard, and fed with straw or hay. All agree, however, in this point; that no beasts ought to be permitted to tread on the ground, intended to fatten black cattle the succeeding summer, from the first of February, until the stock, intended to be fatted, is admitted into it; and that store cattle are the better of being housed, from November until the May following; that the harder black cattle are fed, and warmer they

they are kept during the time they are confined, the quicker they will fatten when put on soft food.

Taking an average of the county, each head of black cattle is allowed one acre and a quarter of ground to be fatted on, exclusive of roads and ditches, for the summer; and one sheep, or one and a half, with the help of a *sheep-cook*, is considered a good stock for the winter months.

Graziers begin to sell their summer stock in the middle of September, and generally have all sold before Christmas. What I here term summer stock, consists of those cows, &c. bought in May or June, merely for the summer's feeding, and which are to be all sold, the autumn following, as slaughter beef.

It is a practice with some graziers, who have coarse or newly laid down ground, to buy, in the month of May, yearling calves, at from two to five guineas each, and sell them to buyers from Munster in the months of August or September following. Calves, thus fed, have often paid two guineas each; they generally pay from one guinea to a guinea and a half, for four months feeding.

It is considered, that cows ought to pay 10s. and bullocks 15s. per month for their feeding; a profit exceeding this may be termed good, and profit not equaling this may be looked upon as bad. It is the opinion of the generality of graziers, that there cannot be too much grass left upon the ground, to shield it from the

bitter

bitter north-east winds, so very prevalent in this country in spring; in aid of which, they quote a saying of the late John Lowther, of Staffordstown, Esq. who realized a larger property by grazing, than any of his cotemporaries, namely, that "half stock was whole profit, and whole stock was half profit." They argue that, the more grass is left on the ground, the earlier the grass will spring the succeeding year; that the earlier the spring, the sooner the beef will be fat, of course the greater will be the price gotten for it. Others combat this opinion by asserting, that grass, by being left to rot on the ground, makes the succeeding crop coarse, and every succeeding crop still coarser, until, in the end, no beast will eat it; that this is particularly the case on cold clay grounds, or upon bottom-lands, whose substratum consists of clay; and that, although the spring is not so early upon grounds eaten tolerably bare, yet the grass produced therefrom is much sweeter, and more nutritive, than what grows on ground, which the genial influence of the sun has not reached for years, and where the beast must eat a quantity of old bleached grass, half rotted, perhaps some of it two years old, before he can fill himself.

Thomas Rothwell, of Rockfield, Esq. has a farm, on which there is a very extensive bottom, that throws up an incredible quantity of this kind of coarse grass; he has adopted the plan of eating it quite bare every third year, which succeeds extremely well; one part of
this

this he kept up for meadow, about two years since, after having so eaten it down: the produce was better than he expected, and, after drawing the hay, he shut up the field, and meadowed it the second year, without eating the after-grass. This crop was astonishingly heavy, and he purposes continuing the practice, in hopes that the frequent mowing may meliorate the grass, whilst letting the after-grass die on the ground will keep it in a good state of fertilization.

I must acknowledge my inability to decide upon these contrary opinions, but I conceive truth may lie between them. The practice of leaving old grass on the grounds is, however, most prevalent amongst the extensive graziers.

Few of the sheep, in proportion to the number fattened in this country, are natives of it, but may merely be considered as sojourners for a time, as they are seldom kept longer than one year, and not always so long. In the month of October every grazier, of any consideration, goes to the fair of Ballinasloe, and there buys the stock of sheep he may want for the succeeding year's feeding. At a fair, where such a variety is to be had, it may be supposed that each grazier buys what best suits his means of feeding: those, who have rape, turnips, &c. buy the sheep, that are *nearest to fat*; these they keep as well as possible until spring, at which time they are sold in Dublin, at a considerable profit. Those graziers, who have not any forced food, but merely

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feed

feed their winter stock of sheep, where their summer stock of black cattle were fed before, buy those more in store order; these they let run on their grounds until they are fat (giving them hay during winter, either at a cock made in the field, or in sheep-racks), perhaps in May or June, after the shearing, and then sell them in Dublin. Some of them do not fatten until July or August; all are, however, if possible, gotten off before the succeeding fair of Ballinasloe.

Lands, newly laid down, are generally appropriated to rearing lambs for Dublin market. The ewes, that these are bred from, are also bought in October at Ballinasloe, and, as soon as they are brought home, the ram is put amongst them, in the choice of which too little attention has heretofore been paid, except to his size and condition, and to such as would be likely to get strong lambs for the markets of Dublin or Drogheda, to one or other of which they are almost invariably sent. These ewes were, until this year (1801), bought in at from 15s. to 30s. per, and their lamb and wool generally paid the first cost,* sometimes more, so that the ewe remained for profit.

About

* I have been favoured with the following through Sir Benjamin Chapman, but by no means give it as a general statement. Mr. James Dillon, of Girly, tenant to Sir Benjamin Chapman, bought, in October 1800, some ewes for 16s. per; they had early lambs, which he sold about the middle of March for 25s. per; he procured other lambs in the neighbourhood,

About the middle of September these also begin to be sold fat in Dublin, and are all generally disposed of, before the new stock is brought in, at a few shillings advance from their original cost. In short, the grazier endeavours to keep up a succession, both of sheep and black cattle, to answer every market and every season, particularly those, during which beef or mutton sells highest, which generally occurs in the spring months. With black cattle the grazier is not always prepared to meet the rise, from his want of succulent green food for the winter months, and sheds to tie them up in; without either or both of which it is impossible for him to cope with the distiller, whose convenience and re-

Q 2

sources

bourhood, for 3*s.* each, with which he stocked the ewes; these he also fold for one guinea, about the month of May; they shorn 4*lb.* of wool each ewe, which he sold for 22*s.* per stone, and the ewes fold for 40*s.* per.

			<i>Dr.</i>		<i>£.</i>	<i>s.</i>	<i>d.</i>
Prime Cost,	-	-	-	-	0	16	0
Second lamb,	-	-	-	-	0	3	0
					<hr/>		
					<i>£.</i>	0	19 0

	<i>Cr.</i>	<i>£.</i>	<i>s.</i>	<i>d.</i>
Sold the first lamb for	-	1	5	0
Second ditto, - -	-	1	2	9
Four pounds of wool,	-	0	5	6
The ewe, - - -	-	2	8	0
		<hr/>		
			5	1 3
		Deduct	0	19 0
			<hr/>	
		Profit,	£.4	2 3

sources very far exceed those of the grazier. In sheep, however, the latter stands unrivalled, as the distillers never attempt feeding any on hog-wash. The disorders, together with the cures, that sheep and black cattle are subject to, I shall reserve for the chapter on live stock, and shall now proceed to report the management, observed in dairies throughout this district.

SECT. 5. *Dairies; their produce and management.*

ALMOST every farmer in the county, occupying from thirty to one hundred acres of ground, making a livelihood out of it alone, keeps a few milch cows, the produce of which, both in milk and butter, after supplying the family, is disposed of by them; yet, from want of some nourishing green food for the winter and early spring months, they are unable to supply the market, at the season of the year, with milk and butter, when the price is generally by one-half greater than in summer or autumn. Those persons, who keep cows in Navan, and other places where hog-wash can be obtained, have a constant supply of milk; but though cows fed thus give a great quantity, the quality is by no means good, as it contracts a taste from the hog-wash, very unpalatable to those, who are unaccustomed to it. There are a number of dairy farms let in the baronies of Dunboyne and Ratoath, the landlord supplying

plying cows, houses, and land; the tenant furnishing labour and utensils, and paying for mowing and making the hay used by the cows; for this the tenant pays from six pounds to seven pounds ten shillings, per cow, per annum; the cows are changed by the landlord, and at his expence, as often as they grow backward in their milk. In these dairies no part of the milk is churned but the cream, the skimmed milk being mixed with the butter-milk, and sold in Dublin to hucksters, who retail it to the poor.

In other parts of the county, dairy farms are let from ten shillings to half a guinea per month, for each cow, the landlord, as above, finding houses, &c. In these instances, the whole produce of the cows milk is generally churned, and the butter-milk sold at from one to two pence per gallon, in the surrounding markets, to the poor. In other parts, eight shillings is considered a fair price, per cow, per month.

Few of the persons, who *rent* dairies, rear their calves; those, who do, generally give them new milk for about a fortnight or three weeks, and then bring them by degrees to hay-water, thick milk, and other substitutes, but few have tried flax-seed jelly, which is constantly used in England for rearing calves.

Those farmers, however, who manage their own dairies, generally rear their calves, which, if attended to, form a considerable part of their profit, particularly the heifers of good milkers; but as there is little attention.

tion paid to the bulls admitted, the stock is seldom valuable. They are generally weaned in July or August, and put upon the after-grass; little or no attention is paid to the choice of the cow, further than to those points most likely to produce good milkers. The average produce of each cow is one cwt of butter, in the six summer months; when a cow makes more, she is considered as paying well, but if less, the dairyman is not paid by her. Cows, if not carefully milked, are very apt, in hot weather, to contract inflammations in their udders, which, without attention, often deprive them of the use of one of their teats.

Heifers, at their first calving, are particularly subject to this disorder, and require great attention; milking evenly and well is the best preventative; bleeding, swimming in very cold water, and other repellents, are the best cure; some think a dose of salts the most effectual cure, but as the disorder is inflammatory, copious bleeding and purging promises best.

Care should be taken that black cattle, in the summer months, have plenty of good clean water to drink, or where this is not attainable, they should be driven twice each day to water, and permitted to stand in it, and remain there some time. The want of water produces the disorder called here a dry *murrain*, which soon carries off the beast; and it often happens, through inattention of the persons, under whose care they

they are, that the disease is the first intimation of their want of water.

In the early stages of this complaint, bleeding and purging by Glauber's salts are considered a good cure, but when it has continued any time, remedies of a more powerful nature must be used. I have seldom known an instance of the dry murrain proving fatal, when sweet oil had been judiciously given; a flask is sufficient for a dose, and after the beast has taken one dose, it should be walked about for some time; if the first dose does not cause evacuation in an hour or so, a second should be given; and if this fails, a third. I never knew an instance of a third not effecting a cure.

Cows, that milk well, are often kept until ten or twelve years old, but if they happen to miss the bull, they are generally sold to the graziers; they feed, if well fed the preceding winter, very fat, and pay him from three to five pounds for about eight months grafs.

The dairy cows are invariably housed, from the first week in December until May; during this time they are let out on the pasture grounds in the day time, and are fed at night with hay. If they are dry, they often get straw, and sometimes hay and straw mixed. The practice of housing black cattle is become more prevalent than heretofore; many of the graziers, wedded to old opinions, will, however, yet insist, that beasts thrive better, when the hay is thrown on the ground
in

in the field, than when it is given to them in a shed, with liberty for the cattle to walk out and in; and as to thriving whilst tied up, that is a thing, which in their eyes, is totally impossible. David Thompson, Esq. built sheds in each of his meadows, the after-grafs of which he reserves until November, when he turns in those beasts he purposes keeping for the spring markets, and as soon as the weather becomes severe, he gives them hay in the sheds. The cattle thus fed thrive remarkably well, and there is an immense saving of fodder. If the dairyman or farmer could be prevailed on to deviate so far from his accustomed practice, as to cultivate potatoes, rape, turnips, or cabbages, for his cows for one year, I am persuaded he would be so thoroughly convinced of the utility, that he never would again be without such food. Clover or vetches, also, with which he could foil his cows in the house during the day, when the flies are most troublesome, would not only increase his milk and butter, but also raise such a heap of manure, as would amply repay him his expences; he might, by this means, milk his cows three times a day (as is practised in some parts of England, but more frequently in Scotland) and get nearly as much from them at each meal, as at present, by which he would gain nearly one third.

When once the udder is fully distended, the remainder of the milk, which she is capable of yielding, is reabforbed, if not drawn off, by the fever, which the beast is
thrown

thrown into, from the superabundance of the secretion, and the milk thus gradually taken will keep longer from souring, as the fever occasioned by the heat of the sun, and the fullness of her udder, greatly contributes to souring the milk, both which are prevented by soiling her in the heat of the day, and milking her three times instead of twice.

Butter produced from very rich pasture is not considered to keep as well, or to be as firm as that produced on poorer land; it is for this reason that the Cavan and Wicklow butter is so much more prized, than what is made in this county. The butter, not used in this district, is all sold in Dublin or Drogheda, and, until these last two years, rated at from 7*d.* to 9*d.* per pound for salt, and from 10*d.* to 1*s.* for fresh butter. Cheese is very seldom made in it, and then only for the family use. A manufactory of cheese has been established at Slane, by order of Lord Conyngham, carried on by men and women from England, and, as far as I can judge, bids fair for success. In it, cheeses of the same nature as those of Cheshire, Gloucester, Stilton, &c. are at present manufactured.

Calves are very subject to a disorder called, in this country, the black leg, and in other places the quarter-ail. It is so infectious that, if the diseased beast is suffered to remain amongst the stock for many hours, after it is seized, it generally communicates the distemper to others. If they even smell the spot, where the
infected

infected beast has died, or where his blood has been spilled, contagion will surely follow, and is as surely fatal. Calves under two years old, highly bred, or highly fed, are most subject to it, and although it seldom originates in old beasts, yet they are liable to take it from infected young cattle. The disease is a mortification in a limb, and first appears by a slight degree of lameness, which rapidly increases until the animal loses the power of motion, and it is seldom longer than six or eight hours reaching the vitals, when death is the inevitable consequence. The black leg may be known from other lameness, by feeling the skin over the disordered quarter, which is puffed, and appears as if there was wind situated between the skin and the flesh. As soon as the herdsman has reason to suspect that a beast is disordered, his first care should be to separate him from the remainder of the stock, and his next to bleed the rest plentifully, lest they might have received some of the infection; this bleeding may tend, in a great measure, to act as a preventative to the generation of the disease, yet, I have never heard of its being a cure for a beast, when once infected.* Some
herdsmen

NOTE BY DR. GIBNEY.

* This practice, though common, is extremely injudicious; washing the calves in cold water once or twice a day, would be a much more rational plan of prevention; when a calf is infected, an incision should be made in the part, and then lints, dipped in
in

herdsmen pretend to have a charm to prevent beasts taking it, but I never saw any, who claimed the power of curing it. Care should be taken to bury the diseased quarter, which is quite black and reduced nearly to a jelly, quite out of the reach of dogs; as, if rooted up, it might be productive of incalculable mischief to the remaining stock. A knowledge of, and cure for this disease, should be anxiously sought after by all agricultural societies, particularly as the best stock is most subject to it.

CHAP.

In oil of turpentine, should be introduced, so as to stimulate the part to suppuration, at the same time giving, inwardly, bark, in combination with some cordial medicine, such as pepper or ginger. The hair must previously be taken clean off the limb, and the part immediately joining that, which is mortified, scarified in such a manner, as to raise inflammation, and, if possible, check the progress of the mortification.

CHAP. IX.

GARDENS AND ORCHARDS.

IN this county, we find no gardens enclosed, nor orchards planted, merely as a source of emolument, but such as are entirely confined to the dwelling houses of gentlemen, for family uses. Orchards, attached to houses not inhabited, are commonly let for the season, at prices proportioned to the *hit of fruit*, as it is termed, and the produce is generally sold to dealers, at from sixpence to two shillings per hundred, who dispose of them in the streets of the several towns and villages. Even those, which belong to gentlemen's houses, are often let for the season in the same way, and it does not unfrequently happen, that a few hundreds of apples are reserved in the bargain as a part of the stipulated rent.

Those gentlemen, who keep their orchards in their own hands, generally make cider, which, if properly managed, is very much esteemed; few, however, pay that attention to the making of it, that it requires, nor do any, that I can learn, sort their apples, before they put them to the mill.

Several

Several gentlemen, who, in a good fruit year, make from five to twenty hogsheads of cyder, may not, from a failure of fruit, make any for the three years succeeding.

Apples are rather an uncertain crop in this county, owing, in a great measure, to the little nipping frosts, or heavy showers, to which we are subject in those months, when the fruit-trees are in blossom; for which reason we have the best hit of fruit, when the spring is rather backward.

There are various kinds of apples propagated in this country; those for cyder are, the English and Irish red-streak, white costard, the golden rennet, the royal permain, the fire-apple, the cackagay, the golden russet, and the winter crofton, beside several others too numerous to insert.

Those for domestic purposes are, the summer and winter croftons, jenetings, the eve, the Rofs nonpareil, or French pippin, the golden pippin, the Harvey, and the London tankard for culinary purposes, beside many others. Those, that are to be kept through the winter, are generally hand-pulled, and packed in earthen jars, with a layer of dry straw between each layer of apples, and the jar covered closely from the air.

About February they are looked over and picked; any apple with the smallest canker must be separated from the others, else it will infect every one, that it touches; they should all be wiped, and re-packed with
straw

straw carefully, as at first. I have frequently eaten the winter crofton, and Rofs nonpareil, thus kept, in the month of May, nearly as good as in the foregoing December.

Apples for keeping should be suffered to ripen fully, before they are pulled ; if that precise period could be known, when the fruit was *about to fall* from the tree, it would be the best time to pull.

Fruit for keeping should be invariably hand-pulled on a dry day, as wet injures them considerably.

A gentleman in this country has had the winter crofton, and the Rofs nonpareil of one year, on his table with the eve of the succeeding year, each perfectly good.

CHAP.

CHAP. X.

NURSERIES, WOODS, AND PLANTATIONS.

THE quantity of natural wood within this county is so very small, that it is not worth consideration under a separate head; the plantations, however, are very extensive, about the different noblemen and gentlemen's seats; some arrived at, others approaching fast to maturity, and many in a state of infancy. I shall begin with the public nurseries, which are six in number, viz. one in Duleek barony, two in Trim, two near Summer-hill, and one at Ballybeg, near Kells, belonging to Mr. Reilly, which may be considered, perhaps, the first, in point of extent, of any in Ireland. I have been told there are few more extensive nurseries even in England, and he is extending and improving it every year. When it is considered, that twenty-four Irish acres (the extent of Mr. Reilly's nursery) are equal to thirty-nine English, this assertion will not seem so very extraordinary as it may at first sight appear. This, however, will be seen by the following table of Irish and English measure, viz.

1 English

A. R. P.

1	English acre is	0	2	18½	Irish plantation measure.
10	ditto,	-	-	6 0 27½	- ditto.
20	ditto,	-	-	12 1 15	- ditto.
50	ditto,	-	-	30 3 18	- ditto.
100	ditto,	-	-	61 2 36	- ditto. &c.

The size of Mr. Reilly's nursery is a matter of little consequence, when compared with the flourishing state of the trees and shrubs to be seen there; the greatest possible variety, growing in the most luxuriant manner.

The soil is chiefly composed of clay, very cold and poor; consequently the young trees grown in it thrive remarkably well, when transplanted into almost any kind of soil: nor are the forest-trees here trained up in *closets*, as the nursery-men in the vicinity of Dublin term those small, close, well sheltered plots of ground, in which they force the young trees to a height sufficient for planting out, before they ought, perhaps, to have been transplanted from the seedling-bed. But the forest-trees in Ballybeg are kept in the open air, and are frequently transplanted, before they are delivered, which makes them throw out a great number of lateral roots, capable, when planted out, of drawing more nourishment from the earth, than those, which are nursed in closets, whose bark is so soft, and whose roots are so small, from never having been exposed to frost-breezes or winds, that they are, like children too tenderly

tenderly reared, subject to take cold, when transplanted in a more bleak situation, than they have been accustomed to bear.

Mr. Reilly has gotten premiums, at different times, from the Dublin Society, for extending his nursery; and he has gotten several apprentice fees, with different young men, who have become useful members of society in the different branches of horticulture. He sends his young trees, carriage free, to any part of the kingdom, and engages them for three years, when he plants by contract.

There are few gentlemen in this country, who have any taste for improvement, that have not a nursery, in which they rear trees for their own planting; they buy them, however, from the seedling-beds of one of those public nurseries, and plant them out as they come to sufficient strength. Gentlemen have them, by this means, on much more reasonable terms, than they could possibly raise them from the seed.

The practice of transplanting young trees in the nursery, previous to their being put out, is earnestly recommended to every planter; the height of the plant is, by that means, checked; but the roots are benefited in a surprising degree, which enables the plant, when set out where it is to remain, to grow uncommonly fast, and prevents it from being shaken in the ground, which is too commonly the case with trees, that are drawn up too rapidly, and that have not been transplanted as

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often as necessary. In nurseries, deciduous trees and evergreens should be set in alternate rows, about 18 inches asunder, as the evergreens are soonest fit to plant out, and then the deciduous trees obtain sufficient room to spread.

Full-grown plantations consist, for the most part, of groves, immediately surrounding old mansions and modern houses. They are chiefly composed of ash, elm, oak, sycamore, and lime, and, in a few instances, Scotch and spruce fir; those, that are coming to maturity, are generally hedge-rows, or skirting plantations, and are chiefly composed of ash and elm, in the former; beech, fir, and different kinds of forest-trees, in the latter; and those in their infancy are situated in extensive ranges, on the sides of hills, or large clumps within the view of gentlemen's seats.

Planting precipices and crags, and turning into profit ground, hitherto considered unprofitable, seems to be viewed in its proper light; and every spot of such ground, which heretofore was left waste, is now fenced in and planted.

This practice, as may well be supposed, has beautified the face of the country in a great degree, and will, no doubt, in time, tend to enrich the proprietors.

The late William Waller, of Allen's-town, Esq. planted more, and with greater judgment, than any gentleman in the county, and he was blessed with life and health, to see his plantations come to perfection.

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The timber on Allen's-town, of his planting, has been valued at near twenty thousand pounds, exclusive of the timber on several other farms, planted by him whilst he rented them. The trees are planted both in hedge-rows, and in groves; and, from a calculation, which I made of one of the plantations, valuing the timber at what it would at present sell for, and deducting the prime cost of planting, it would pay 4*l.* 10*s.* per acre per annum, since it was first planted. When it is remembered, that woods require little or no care, from the time they are planted, until they are cut down, except merely to secure them from cattle, and weeding for the first year or two, and that the thinning, after ten years growth, will produce an annual return, this profit may be deemed very great.

The late Earl of Beftive planted an immensity on the demefne of Headfort; his plantations, in general, have succeeded remarkably well; numbers have, however, died for want of thinning, and admitting the free circulation of air through them. Larch, planted by him, would now square ten inches, for a length of twenty feet.

The plantations of the Earl of Fingal are very extensive, although yet in their infancy; they seem to thrive remarkably well, and are certainly laid out with much more taste and judgment than the last mentioned. Lord Tarah's are still more extended, and somewhat more forward; they shew what effect care and atten-

tion to plantations will produce, even on a poor, hungry, damp, rye soil. The demesnes of Dangan and Summer-hill are both richly wooded; the timber on the latter is mostly full grown.

The plantations on the demesnes of Slane and Beauparc far exceed any thing, that I have seen in the country; not so much on account of their extent (though even in this respect they merit attention), as of their beautiful disposition. The river Boyne; the rock of Fenor on its banks; the hill and town of Slane; the ruined abbey, are objects that few situations can boast of: in short, whatever way we turn our eyes on these demesnes, an extensive and richly planted landscape presents itself.

To mention every nobleman's or gentleman's seat in the county, worthy of notice from its plantations, would far exceed the limits prescribed to this work. I shall therefore briefly state, that there are few gentlemen of property, residing in the county, who have not laid out considerable sums in planting; and that, wherever attention has been paid to keep them well fenced from cattle, and protected from the ravages of the poor, there is hardly an instance of their not succeeding well.

There are very few persons in this district, who have sufficiently considered the subject of planting, as a source of profit; and I should, perhaps, to many of my readers seem chimerical, if I advanced it as a principle
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of sound policy, in a person, possessed of a determinable lease, to plant yearly a certain proportion of land, and register the trees so planted. But let us make a calculation: suppose an acre of ground, planted at the rate of nine trees upon a square perch of twenty-one feet; an acre will contain 1440 trees, each being seven feet from the other.* This is the smallest number that, upon the first planting, ought to be put down; some think it is not sufficient, and assert, that half as many more, of some indifferent kind of tree, a quick grower, suppose spruce fir or poplar, ought to be intermixed, which would draw the other trees up more quickly, and might be wed out with profit, according as those, intended to remain, arrived at sufficient strength; but allowing only nine upon a perch square, and that 440 of these were allotted for failures, weeding, &c. there would remain upon an acre one thousand trees, which, at the age of twenty years, would be worth at least

two

* The Dublin Society recommend the planting 4,410, on each acre, of mixed trees; when plantations are to be of larch alone, they recommend 8,000 per acre; of oak 6,000; and that, according as the branches interfere with each other's growth, they should be wed out.

As a square perch, of twenty-one feet every way, contains 441 square feet, which, if multiplied by 160, the number of perches in an acre, the product will give the content of an acre, which is 70,560 feet. Now, as the trees are to be planted in squares of four feet, of course each square will contain sixteen square feet, and, consequently, an acre will contain 4,410 trees, each four feet asunder.

two shillings each; this would produce £.100. The account would stand thus :

	£.	s.	d.
Planting an acre of ground with good forest trees, and replacing all failures, for two years, - - - - -	10	0	0
Ditching 88 perches, at 2s. per perch, including quicks, an ample allowance, -	8	16	0
Weeding said ditch for three years, at 1d. per perch, per ann. - - - - -	1	2	0
	<hr/>		
	19	18	0
By 1000 trees, at 2s. per tree, - - - - -	100	0	0
	<hr/>		
Balance, -	£.80	2	0

Or four pounds per acre, per annum, without either capital employed, or expence of any kind. If then a farmer, having land at a fair value, is content with making one pound per acre, clear of all expences, and that land is averaged at thirty shillings per acre, on how much better footing does the planter stand, than the farmer ?

I don't know a better mode for a man of moderate fortune, to make a provision for his children, than that of planting a certain portion of ground every year, and registering the same; the loss of the land to the occupier would be but trifling during the term, and the advantage, at the expiration of his lease, would be great indeed. It should also be remembered, that a tree
advances

advances in value, in an increased ratio with its years; for instance, one tree of thirty years old will be worth more than two trees of twenty years growth, and one tree of forty years will be worth, perhaps, three trees of twenty years growth, and so on.* Some care is, however, requisite, in the above recommended speculation, to choose the most profitable kind of timber trees, viz. those that are quick of growth, and for which there would be a brisk demand. These, I should imagine, are the ash, elm, sycamore, Scotch fir,

* In cutting down some trees lately, I had the curiosity to examine in what stage they grow most, and I found their greatest growth to have been from their twentieth to their fortieth year, by observing the circles described on the *but* of the tree when cut across. The trees, on which the experiment was made, were Scotch fir, grown in a plantation. They were too thickly planted, and, had they been thinned as they grew large, would most likely have continued to thrive as much, after the fortieth year, as they did before it; but from the fortieth to the fifty-fifth (the age of the trees when cut) they did not grow as much as they had done from the thirty-fifth to the fortieth year. Those trees, that grew near the edges of the plantation, did not swell so much from the twentieth to the fortieth year, but then they held their pace more evenly, and were, in the end, the grossest timber. The result of the experiment proves the necessity of shelter for plantations, and the utility of continual weeding, according as the trees grow up, as it leaves them room to spread, and gives each a greater proportion of earth to extract nourishment from.

fir, larch, and silver fir. The sycamore and ash should be planted alternately, on the outside, next the Scotch fir, then the elm, and within the larch, which requires the most shelter.

It was heretofore considered, that the English elm, grafted upon the Witch elm stock, was the kind most profitable to plant; but the witch is now esteemed best, as it is very quick of growth, and the timber generally straight and clean, and not so subject to be blown down. The Dutch is the slowest of growth of any kind of elm, and if particular attention is not paid to keep it pruned to a leader, it spreads at top, becomes crooked and ill thriven. The English elm, from the rapidity of its growth, soon becomes top heavy, and the root not striking deep enough in the ground, it is most liable to be blown down, both which objections are obviated by the grafting on a Dutch or witch stock, or by planting the witch elm without grafting.

If grafting should be preferred, care must be taken to set the slip of the graft against the westerly winds, else they are subject to be snapped across at the place, where they had been grafted.

Oak, birch, fallow, and alder, are the kinds of trees best adapted to bog or moor lands; on the deep clay grounds, ash, elm, sycamore, and beech; and on the lighter grounds, larch, Weymouth pine, and other deals. Scotch fir succeeds very well in bog grounds.

It

It is pretty generally understood, that the stem of a tree swells in proportion to the sap, that is drawn from the root to the head, and that every tree receives nourishment from the air, and a power of drawing sap from the root, in proportion to the size and extension, and the number of its leaves and branches; for the truth of this assertion, we have only to view trees grown in a plantation, where ramification is impeded; by the close situation of the trees, in respect to each other, we shall see, that the diameters of the stems are nothing equal to those of other trees, of the same age or height, which stand more apart; though the timber may, perhaps, be straight to a greater height, yet it will be soft and spongy. If, therefore, trees receive nourishment through their branches, from both air and earth, it follows that, when a tree has arrived to the size of timber, and then suffers amputation, it loses that portion of nourishment, heretofore attained by the influence of the air upon that lopped limb; and the trunk, deprived of the power of drawing its accustomed quantity of nourishment from the earth, becomes bark-bound, and, stunted in its growth, breaks out into warts and excrescences; frequent repetitions of the like practice throw the tree into a consumption, of which it at length dies.

If such be the noxious effects of even judicious pruning, what must we say of the injurious treatment, that hedge-rows experience in this respect, from the hands

hands of the unskilful farmer? Perhaps I would not exaggerate, if I asserted, that at least two-thirds of the timber of the country is stunted by injudicious pruning.

By these observations, I mean not to object totally to the practice of pruning young trees; they must be carefully watched; the more attention there is paid to them, in pruning, thinning, &c, at the proper age, and in a judicious manner, the sooner they will become profitable.

On consulting the resident gentlemen of the country, as to the most effectual means the Dublin Society should take to encourage planting, their opinion seems to be, that of giving premiums to farmers, holding certain quantities of ground, who should plant the greatest number of timber trees, in hedge-rows, not fewer than three, and not more than five upon a perch, the farmer giving security to keep them from being either spoiled by cattle, or otherwise destroyed, and the Society making a promise of a subsequent premium, after a certain period, provided the trees were carefully kept, and in a thriving condition; and an additional premium to the farmer, who had his trees in the best order, at the time of visiting, which should be at a period a good while subsequent to the planting; perhaps ten years.

Ground, in this county, is generally considered as of too much value, to be planted for emolument; it is thought to pay more in grazing, or farming, for which
reason

reason hedge-rows are preferred, as they look nearly as well, and our fields are generally of a size to admit of them, without injury to the crop; besides, as the returns made by ground employed in planting are so slow, few persons wish to lose the use of their money for so long a time.

Upon a former occasion, I reported to the Society the state of those plantations, for the planting and enclosing of which the proprietors received premiums. The two forts, planted by the Hon. Sir John Dillon, near Lismullen, containing about three acres, are in a very thriving state, although from the elevated situation, and the very great aridity of the soil, they have not made as great a progress in growth as they would have done, had their situation been less exposed. The fort of Odder, planted also by Sir John Dillon, is in a most flourishing state; the trees in it are principally Scotch fir, and have lately been pruned with much judgment; as the situation and soil are more congenial to the growth of trees, their size is greater in proportion, and their appearance more healthy, than those planted on the forts near Lismullen. Those trees planted on the fort of Ramevin, by Sir John Dillon, have thriven much better than those planted by Mr. Lynch, on the same fort, the same year. But this may be easily accounted for, by marks of cattle appearing through Mr. Lynch's part, whereas Sir John Dillon has in this, as in all his other plantations, been scrupulously

puloufly nice in keeping them well fenced. Mr. Lynch has, however, been very attentive to replace thofe trees, that have failed, and his plantation now begins to make fome figure in the country.

The fort of Ringleftown, planted by Lord Tarah, is in the higheft ftate of luxuriance; it has made the beft progrefs of any I have feen, and the intentions of the Society feem in every refpect to have been acted up to. There are many other forts fcattered up and down the diftrict, which, if planted, would highly ornament the country, as they are generally upon elevated fituations, and vifible from a great diftance.

Sir Marcus Somerville, Bart. planted ten acres in the year 1800, for which he received a premium from the Society. The trees feem to thrive very well.

Hugh Rothwell, Efq. is now, February 1802, planting at Sylvanpark ten acres of bog and moor land, in which he purpofes planting at the rate of 6000 trees, of different kinds, to the acre.

When any quantity of timber is to be difpofed of in the country, it is genenerally advertifed, and fold to fome perfon, that makes a trade of buying woods, who fells the timber, and cuts it up into that fcantling, which the tree will beft answer; by this means, there is little or no wafte, as the part of a tree, fit for the wheeler's ufe, would not answer for other purpofes, and fo in regard to the ufe, for which it is intended, and an individual is feldom neceffitated to buy more than

than the particular piece, for which he has occasion. Turners, and wooden dish-makers, &c, by this means, accommodated with raw material, in quantities proportioned to their capital, as they generally build a hut in the wood, and reside there while the timber is felling, buying and working those kind of trees most suited to their purpose, and paying for them as the manufactured goods are sold. In short, more general benefit arises from this practice, than if every person, wanting any particular piece of timber, was under the necessity of buying a whole tree, or perhaps more.

The late William Waller, Esq. about thirty years since, planted oak and spruce fir in rows, two fir trees between each oak; these fir trees his son is now cutting, and selling, at the rate of from half a guinea to sixteen shillings each, and leaving the oaks standing, which were drawn up more quickly by the fir trees, than they would have been, were they planted by themselves; this is considered an excellent practice.

Copse is esteemed most profitable at the age of twelve or fourteen years, as their produce can then be turned to greater account, for ribs, gate-slats, cribs, rake-handles, &c. than at any period prior or subsequent thereto.

In the county are many osieries, of from two to ten acres each, the produce of which is sold to basket-makers, from Dublin, who send down a man skilled in cutting and peeling them, and who makes them up for
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the different purposes of the manufacture. They produce from six to ten pounds per acre every second year. I have been told that, in some places, they produce ten pounds per acre per annum. Osiers being of necessity two years old, before they are fit for the general purposes of basket-making, seldom more than half the osiery is cut each year; from three to five pounds per acre per annum, even in such case, may be deemed a very good return from land, which, from its humid state, and clayey nature, is almost unfit for any other purpose.

Elm and ash timber sells from two shillings to two shillings and sixpence per foot, according as the timber is straight or clean; and oak at from three shillings to three shillings and sixpence per foot. Gross oak is very scarce in this country, so much so, that it is often a difficult matter to procure spokes for cart-wheels. Deal sells by the tree, at perhaps from one to two shillings the foot. There is a good deal of gross oak at Loughcrew, in Demifore barony; one tree sold, within these few weeks, for twenty-five guineas.

I cannot close this chapter, without once more pressing upon the recollection of the Society, the necessity of encouraging the common farmers to plant timber-trees in hedge-rows. This practice is considered the most likely to succeed, and is best adapted to the means of the generality of farmers.

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The timber of the country is becoming extremely scarce; and when it is considered, that not more than one, of every twenty trees planted, comes to maturity on the generality of farms, and that one year's felling may do away the effects of fifty years improvement, the necessity of planting, and of protecting trees when planted, becomes a matter of national consideration.

Sowing furze-seed on the backs of ditches, protects young trees from the injuries they sustain from cattle, and is, perhaps, the best method of preserving hedge-rows.

CHAP.

CHAP. XI.

BOGS AND WASTES, WITH THEIR IMPROVEMENTS.

I HAVE, in a former part of this work, stated the quantity of waste land within the county, including the bogs, to be about 27,900 acres. The unreclaimed bog may amount to about 26,000, leaving about 2000 acres for wastes, &c.

The management of these bogs has been hitherto so much neglected, that a comparatively small proportion of them has been turned to any account, further than what is necessary to supply the proprietors and the vicinity with fuel, and this merely from the edges, provincially termed, *the face of the bog*.

With respect to bog, as in most other instances, it is necessary, before any improvement can be effected, to know the nature, propensities, and capabilities of the subject, the cause of the disease, and how far a cure of that disease may be effected, by taking advantage of the natural resources. For this purpose it must be considered, that the cause of the present sterility of bog is,
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the immense quantity of stagnant water, by which they are kept buoyant, and prevented from contracting that degree of solidity, necessary for vegetation. This superabundance of stagnant water was originally caused by the clay, or other substrata of the bog, being of too great a degree of tenacity, to suffer the water, which issued from the higher grounds, to pass through them.

Bog is composed of a variety of decayed aquatic vegetables, whose roots are so interwoven and matted together, that they form a substance not unlike a sponge. These vegetables are produced each year, in proportion to the quantity of water contained on its surface; so that bog may be fairly considered a mass of vegetable matter, and the more wet the bog, the more quickly it vegetates.

It is very easy to discern each year's growth, at least for the last twenty years, by examining a section of the bog, and considering that it encreases every year, in as great a degree, as it bears moss on its surface. The moss grows every summer, and is killed the following winter by the frosts; each year's growth forms a stratum, through which the next summer's heat draws a fresh crop, which dies in like manner; every year's growth may therefore be easily distinguished, lying horizontally in strata, being of a less degree of thickness the farther it is removed from the surface, because the more pressed by the weight of those above it, until they are so consolidated, as to be no longer distinguishable.

Bogs are considerably higher in winter than they are in summer, perhaps three feet on a deep wet bog; this is very manifest to any person, who takes the trouble of standing on one side, and marking an object just visible over the surface, at the other side of the bog. This object, though visible in the months of August or September, will not be so in February or March following: the cause is obvious; the heat of the summer's sun, and the dryness of the atmosphere, cause exhalations from the bog, which deprive it of a considerable part of that water, with which it was surcharged in the winter, thereby contracting and consolidating its surface, which, being of a spongy nature, is swelled again by the rains of the succeeding winter, so that bogs are in a perpetual state of contraction and dilatation.

From what has been above stated it is evident, that consolidation is the first improvement, of which bog is susceptible; and that the first step towards this consolidation is draining, which, by depriving the moss, sedge, and other aquatic productions of their pabulum, destroys them, and gives the surface such a degree of solidity, as to produce vegetables of a more useful nature.

Mr. Elkington's method of draining, by boring, is little understood, and as little practised throughout the county; wherever bog has been drained, the following seems to have been the mode adopted with most success. That part of the bog, called the high bank, is
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the part, that has not been yet cut away for peat, and is much higher (in some instances eight or ten feet) than the low bank, or place whence peat has already been taken : there is a stratum called *bearing*, of greater or less thickness, according to the state of improvement, on the surface of every bog ; in some instances this stratum is from six to ten feet in depth, whilst in others it is not more than one foot, varying according to the quantity of moisture contained on its surface, and its proximity to, or distance from the terra firma.

In all cases, however, this bearing is thrown into the hole, whence the peat was last taken, and forms what is called the low bank ; the trampling of the persons, employed in digging out the peat, gives this bearing a degree of solidity, unattainable in its former state ; from this low bank the water is generally drained, else there would not be any possibility of cutting turf ; and to these drains, sunk in the lower bank, the water of the higher bank is conveyed.

The quantity of bog to be drained is generally marked out in square pieces, each containing about two acres. During the spring of the first year, the plots are separated by drains ; those, leading to the low bank, are made about three feet wide, and three deep ; and those, intersecting them at right angles, are made two feet wide, and two feet in depth ; the stuff taken out being laid on the bank at the lowest side, lest it should prevent the surface-water from running into the

drain; and passages are left, of at least ten or twelve feet broad, for the cattle to cross into each of those plots, either in the highest part of each main drain, or else a funnel is scooped under each, for the water to pass.

The year following, all these drains are made a foot wider, and a foot deeper, than they were at first, and so on for five or six years, after which they are only cleared of the sludge they may have gathered.

The drains are thus made, by degrees, to prevent the sides of the drains, the bog being in almost a fluid state, from pressing in, and the bottoms from rising up, which would invariably happen, if they were sunk to their proper depth at first. Even these precautions are not always sufficient to prevent the banks closing; but time and perseverance, with the assistance of a good fall, will consolidate the wettest bogs.

Thus drained, they have, from the second year, obtained such a degree of consistence on the surface, as to permit black cattle to graze on them; and the grazing assists, in a great measure, towards the improvement, and consolidation, both by the dung, and the pressure. I know an instance of bog reclaimed in this way, on a farm belonging to David Thompson, Esq. that supports, without fodder, except in times of snow, a considerable number of young cattle, until three or four years old, after which they fatten generally sooner than cattle of the same age, reared upon grass, and foddered with
straw

straw or hay. Heath is warm nourishing food, particularly when it is meliorated by the frost; even sheep are fond of it, and thrive remarkably well, when permitted to go off and on the bog. Some improve their bog, by throwing up a spit of gravel, clay, marle, or whatever substance the under-stratum of the bog is composed of, to form a firm surface on that part, which was last cut: this is a good practice, if it were not too tedious; by this means not more than a few perches are each year reclaimed; in the other instance, many acres may be brought into immediate profit.

When these small patches have become tolerably dry, they are often pared and burned, and the ashes spread evenly over the surface, after which the ground is either ploughed or dug, and rape sown, and then laid down with hay-feed. Burned bog produces great crops of rape and turnips; if the ashes produced are red and heavy, they are considered to be of infinite service, but, if white, they are of little value; the bog, in one instance, becomes solid, from the proper application of its own natural resources; in the other, recourse must be had to gravel, clay, or some other extraneous substance, for its consolidation.

As bog is apt, although ever so well gravelled or clayed at first, from its natural spongyness and want of cohesion, to permit the manure, laid on its surface, to pass through, it becomes necessary, in some few years after it has been laid down to grass, to break it up, and

turn

turn that firm stuff to the surface, which was originally laid there; whether it formerly produced red ashes or not, burning will now be found of infinite service; at all events, the turning up of the clay or gravel will produce a degree of solidity on the surface, absolutely necessary for the improvement of bog-ground. The draining of bog and swamps should become a national concern: independent of the quantity of ground, that would be brought into profit by draining them, many thousands of industrious labouring poor, that are at present swept away by agues and fevers, produced by vapours exhaled from the stagnant contents of the marshes, would, by this means, be annually saved to society.

Many small patches of bog are reclaimed by poor persons, living on their edges, who, by burning and draining, make considerable profit from the sale of cabbage-plants. Potatoes and rye are often grown with some success. The use of lime, in reclaiming moss-bogs, has not been as yet tried in the county, although, from the convenience of fuel, there is every temptation to the practice.

As there is not any kind of ground so subject to be reduced, by heat, to a mere *caput mortuum*, in summer, as reclaimed bog, I should imagine that irrigation would be of singular service; and, as lightness and sponginess are the characteristics of reclaimed bog-grounds, repeated and heavy rollings, in the spring months,

months, would greatly tend to the support of the plants, by closing the earth round the root of the grafs, and creating a firmness on the surface, retentive of the atmospheric moisture, which, when left in its natural state, is apt to pass through too quickly. Irrigation, in most instances, is practicable on reclaimed *low banks*, from the water running off the high banks; and rolling is in every farmer's power, with little expence and trouble.

CHAP. XII.

IMPROVEMENTS.

SECT. I. *Draining.*

THE improvements by draining, in this county, are very numerous, and varied according to local circumstances. They may yet be classed under three heads, viz. Embankment, Under-draining, and Surface-draining.

Of the first kind we have very few examples, as there are not many rivers, running through flat tracts, that are capable of being sunk so as to confine the current within its proper channel. In a country, whose surface is even, like that of Meath, it seldom happens, that the floods are either so sudden, or so great, as to destroy embankments, if properly made; yet they are generally made too slight, or the bed of the river is left too narrow, or too crooked, in either of which cases, as it may be supposed, the current of the river is so strengthened by confinement or opposition, that the
weak

weak bank is totally unable to resist its impetuosity, and there seldom passes a year without one part or other of it giving way, and, of course, the river inundating the surrounding ground.

The principal embankment, to be found in the county, is on the Borora river, in its course through the marshes of Rosmin and Emla, where the above objections exist to a great degree. Some hints, likely to tend to the improvement of these marshes, are suggested in a former part of this work, under the head of *Soil and Surface of Kells Barony*. Mr. Edward Kearney has made a great improvement on one of his farms, by embanking a stream, which heretofore was of infinite injury to it, by overflowing, and rendering totally useless, during the winter months, an extensive tract of bottom-land. The plan he adopted was, to make the bed of the stream straight, and to widen it, so as to leave sufficient room for the greatest floods to flow without opposition: the stuff, taken from the bed of the river, formed the embankment.

I am informed this plan has succeeded according to his utmost expectation.

There are many other trifling embankments through the county, none of which, however, is worth especial notice.

The under-draining of the county is adopted for the purpose of carrying off water issuing from springs, and is performed in two different ways, by fods, and by stones:

stones: the latter is more approved of, and prevalent, wherever a sufficiency of round field-stones can be procured. In many places, where field-stones cannot be conveniently obtained, recourse is had to quarry-stones, but the round stone is always preferred, even at a considerable additional expence, as the quarry-stones lie too close, and are more subject to choak than the round field-stone. The drains are generally made from two to three feet deep, according to the depth of the spring, or stratum of gravel, and two feet wide at the top, gradually contracting to the bottom, where they are one foot wide. On grounds, that are situated on the declivity of a hill, or from whence there is a brisk fall, the drains are sunk immediately above the point, whence the water begins to issue, and generally so deep as to cut off the springs, and are made on the side of the hill; and at certain distances other drains are sunk, parallel to the first, the water issuing from which is carried off by main-drains, running into the ditches or rivulets. When clay is the stratum immediately under the surface of the soil, draining is more difficult than on any other kind of ground, and is seldom entirely effected until this stratum is cut through; as all the fissures, created by the heat of the sun in clay, lie perpendicular, they, of course, direct the rain down into the stratum immediately below the clay, in which it takes a horizontal direction, and bursts out wherever it finds vent.

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This practice is attended, in many instances, with considerable expence; some have adopted the expedient of sinking in the bottom of their drain, at certain distances, perhaps every third perch, a sort of well of the same breadth as the drain, quite through the stratum of yellow clay, which they fill up with round field-stones to the level of the bottom of the drain, and then stone the whole as if no well had been sunk. Through this well, the water confined under the yellow clay finds a vent, and rises to the level of the bottom of the drain, and is then carried off. These wells are found to answer every purpose of draining as well, as if the drain was sunk equally deep throughout the whole length. In drains two feet wide, and two feet deep, the larger sized field-stones are placed in the bottom, so as to form a small tunnel, over which the lesser stones are thrown promiscuously, to the distance of about a foot from the surface of the ground; some litter or furze is then laid on, and the clay taken out is replaced. If the mouths of these drains are kept open; they will last for many years; but if suffered to contain back water, they will choke and become useless in a short time. In the method of under-draining by fods, which is never resorted to, where stones can be procured either from field or quarry, the direction of the drain is the same, the object to be effected being similar, namely, to cut off the springs. This kind of draining can only be applied in bottom grounds long
laid

laid down, and that have contracted a tough sod on their surface; this sod must be carefully taken off, with its edges sloped, and laid on one side, and the clay taken out on the other side. When it is sunk as deep as may be thought necessary, which in this country is from two to three feet, a small spade or scoop is used by some, to make a channel in the centre or side of the drain, about four inches deeper than the bottom, and the sod, with the green side downward, is laid over this, next to which the remainder of the sods taken off the surface, and then the clay levelled over as at first.

As this kind of drain is generally first injured at the mouth, particularly if the main drains, into which these empty themselves, continue open, by the frosts or cattle crumbling clay into them, many persons finish them in this part, for near a perch, with stone, which serves to keep them open much longer than they otherwise would remain.

I have been assured these drains continue to run for twenty years, and in some situations much longer. In almost all cases of under-draining in this country, double the number of perches of drain, that are necessary, are made, from the persons, who lay out their course, not understanding the business. Draining, therefore, is considered an expensive improvement, when, in reality, there is hardly any kind of improvement, that pays so much interest upon the capital expended, because the effects produced by it are immediate.

The

The last kind of draining, practised in this county, is called surface-draining, because the effect to be produced by it is, to carry off the rain-water from those lands, which have too great a degree of tenacity in their sub-soil, to suffer it to pass through their surface. This kind of draining is performed differently in different places, and as local circumstances may require; but it is always confined to that sort of ground, that has clay or some other substance impervious to water, *near* to, or perhaps partly composing its surface.

On grass lands, that are not to be broken up for a length of time, drains are made a foot wide, and eighteen inches deep, on the lowest parts of the ground, and at certain distances parallel to each other. On the declivity of rising grounds, these are filled, level to the surface of the earth, with loose stones, through which the water from the surface runs to the main drains. In some instances, these serve the double purpose of surface and under draining. I was witness to the good effect of drains made in this manner, on a field belonging to Doctor Beaufort, situate on a rising ground, part of his farm near Collon. I had known it in a coarse rushy state, and so very wet, that he was under the necessity of withdrawing all the cattle from it during the winter months, to prevent its being poached; upon enquiry he informed me, that he had made small drains obliquely on the hill, parallel to each

each other, about two perches asunder, a foot wide and a foot deep; these he had filled up with stones, after which he had the mole plough (so called from its making a cylindrical pipe, like what moles make in their burrowing) to run up and down the hill, crossing those stone drains at right angles, each stroke of the plough being three or four yards from the last.

This plough has neither share nor mould-board, but is merely composed of a beam, handles, and two coulters, about a foot asunder, running through the beam, and connected together at the points by an iron cone, of about two inches and a half diameter, and about three feet long, with a sharp point. It works under the surface of the ground, leaving a small aperture, wherever it passes, without disturbing the surface. The field, thus drained, became so dry by this means, that the rushes all died, and the ground, being suddenly deprived of its wonted moisture (in the beginning of spring, which was the season the experiment was made), became hard, and was, for the first year, not near so productive of grass, as it had been in its humid state; but the next, and each succeeding year, it continued to improve, and the produce, the third year (1800) although an extremely dry season, was more abundant than, and of a superior quality to any previous crop. This kind of draining ought to be executed in autumn, before the winter rains run the clay together. The Doctor has made use of this plough with a share somewhat

what different, which consists of a wedge-like pointed iron, with a wing about four inches broad, connected also by two coulter to the beam, and called a miner. Its use is to cut and loosen the under-stratum of yellow clay, from eight to ten inches below the depth of the plough, so as to let the water trickle down so much under the natural soil, with great success, in sowing winter corn on light land having a clay bottom; after the sowing plough it was run up the track, once in the furrow, and once in the centre of the ridge; the part of the field, thus sown, was not in the smallest degree scalded, and the crop it produced was much more luxuriant than that, which the remainder of the field yielded.

In some instances, drains a foot deep, and six or eight inches wide, are made and left open, whilst in others they are not made more than six inches wide, and as many deep; in laying down yellow clay ground, the ridges are often left very high, and the furrows deep, across which, at convenient distances, cuts are made to conduct the water to the ditches; but this is considered a very bad practice, as the furrow is generally left quite bare, and the showers, that fall in the latter time of spring, and through the summer, run off too quickly, as there is no kind of ground, that requires moisture in dry weather more than this. After either winter or spring corn is sown, the ground, if any thing of a clayey nature, is *cut*, as it is provincially termed,

termed, that is, drains somewhat deeper than the bottom of the furrow are made through the lowest parts of the field.

SECT. 2. *Paring and burning.*

THE practice of paring and burning upland in this county is very little known, and even on the coarse rushy bottoms only practised by a few small farmers, and the ground thus treated is applied to the rearing of cabbage plants.

When clay bottoms are to be prepared for cabbage feed, by paring and burning, the usual method is to mark out the ground, in the months of April or May, with the plough, as if for lea potatoes, after which the fods of the furrows are dug and left standing on edge, that they may be the more quickly dried by the winds. When they are sufficiently dried, they are collected in heaps, and burned on the ridge, which is generally left unpared. After the fods are thoroughly burned, the ashes are spread on the ridge, and the cabbage feed sown, and covered with the clay taken from the furrows, whence the fods have been dug. The expence of the above is generally from 30s. to 40s. per acre.

When

When bottoms are very coarse and full of rushes, the whole of the sward is pared and burned in the above-mentioned manner.

After the plants have been drawn out, the ground is ploughed, and sowed under a winter crop, which is commonly very luxuriant.

Whether paring and burning is beneficial or detrimental to upland, is a subject, on which I am unable to decide; respecting it, there are many and contradictory opinions; however, the practice is generally reprobated in this county, and on nice upland it is unknown. It is forbidden by an act of parliament, which, I suppose, was founded upon thorough conviction of its bad consequences.

Let what will be its effect upon upland, or coarse clay bottoms, there cannot be a finer treatment for reclaimed peat-land, or bog, particularly when it is known to contain particles friendly to vegetation, or when the bog has, by means of clay, gravel, or any other kind of manure, arrived to a tolerable degree of firmness on its surface; the ashes then become heavy, and contribute much to sweeten and correct the natural bad qualities of the generality of bog-lands.

The method generally pursued is, in the month of May, or earlier if possible, to have the ground lightly ploughed by two horses, if they can walk on it; if not, it must be dug; but the latter practice is so very expensive, that it is seldom resorted to on a large scale.

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When the fods are dry, they are collected in heaps and burned slowly. It often happens, that the heaps continue to burn for four or five weeks, if the wind is in any degree brisk, not only consuming the heaps themselves, but often communicating to the soil, on which they burn, and for some distance round the heap.

When the fires are extinguished, the ashes are spread on the ground, and *lightly* ploughed, in order that the ashes may be kept near the surface; it is then harrowed, and the seed is sown. In general, there is too much seed put in the ground, five pounds per acre is full enough, and from seven to ten is usually sown. It sometimes happens, that the wetness of the season postpones the operation of paring and burning, that the ground cannot be prepared in time for rape, intended for seed; in which case, rape plants, being previously reared in another part of the land, are transplanted into the bog, after having been burned, and amazing crops are produced, which are cut and carried to sheep upon the adjacent upland, or brought into houses for the purpose of feeding black cattle; after which the stalks are often let run to seed, and sometimes produce a good crop.

When a great abundance of red ashes are obtained by this burning, it is deemed a good practice not to spread the whole of it once upon the ground, but to
reserve

reserve some of it for a future top-dressing, after the land has been laid down and come to a skin.

I have been told, that there cannot be a better top-dressing for upland, that possesses any degree of sourness, or produces coarse grass, than those ashes. My neighbour, Mr. Gibney, is making an experiment upon four upland, with ashes taken from a bog, pared and burned by him last summer; they are extremely heavy, possessing a fertilizing quality in a great proportion, and the bog thus treated is now bearing one of the most luxuriant crops of rape, that I ever remember to have seen; when laid down, it will probably be one of the best meadows on the farm.

Before Mr. Gibney ploughed up his bog, he scarified it, at least nine inches deep, with a plough without a shell-board, or share, in lines about two feet and a half asunder, running crosswise from the way the ridges were to run. The use of this scarifying is, that the fods, which are generally tough from the quantity of aquatic roots, with which they abound, may not be too long, for boys to gather together in heaps with pitchforks, for the purpose of burning, which, if not thus scarified, would be very unhandy. He values the expence of paring and burning an acre of bog, as follows, viz.

	£.	s.	d.
Two ploughs, with two horses in each, and			
one man holding and driving, - -	0	10	10
Thirteen boys, at 4d. per day, gathering the			
fods, - - - - -	0	4	4
One man attending the fires, - - -	0	1	1
	<hr/>		
	£.	0	16 3

In ploughing, care should be taken to leave the fods on the edge, that they may be the sooner dried. Bog is often burned for potatoes, which practice succeeds well; in this case the furrow only is burned, and the ashes are spread on the ridge, as in cases of burning bottom land for cabbage seed. Upon the whole, this county is thought to derive more disadvantage from the want of judicious burning of peat and coarse rushy ground, than advantage from the prohibition. I am informed that, before the act was enforced, the burning of both bottom and upland was usual in the county.

SECT. 3. *Manuring.*

THE practice of manuring has become more prevalent within these last ten years, even with the common farmers, than it was at any time previous thereto, and I am happy to be able to state, that it is gaining ground fast. The kinds of manure most in use amongst the common

common farmers are yard-dung, ditch-scourings, limestone-gravel, marle, when conveniently had; and, in addition to the above, lime is used by the more wealthy farmers and graziers.

Although limestone-gravel, when put out in sufficient portions, even if had on the spot, is far more expensive than lime, from the vast quantities requisite, yet that expence chiefly consists in the labour of raising it, and its carriage out of the land, spreading, &c.; and as this labour is done by the farmer's family, and those servants and horses, which he finds necessary to have at other seasons of the year, he does not perceive the money to leave his pocket as sensibly as he would, if obliged to buy and pay for lime, at the rate it is generally sold at the kilns of this county. But to gentlemen and farmers, who pay for all labour, lime is, in the end, the cheapest and most efficacious manure, for almost any kind of soil in the county, if properly drained.

The system of manuring the ground, and of keeping it in heart by a proper rotation of crops, is very little understood, and, consequently, seldom practised in the country. A green crop, except of clover, being scarcely ever to be seen on the lands of a common farmer, and the practice of soiling, even on clover, seldom followed, a dry fallow is, of course, resorted to upon all occasions, for renovation, amelioration, and cleansing, when the land is either worn out by repeated crops, or

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is become a wilderness of weeds from bad tillage. The whole of the dung, produced in the generality of farms, is hardly sufficient to manure the necessary quantity of potatoe-ground for the family and labouring tenants; when any can be spared from this use, it is laid as top-dressing on the meadow-grounds. Gravel, with cleanings and backs of ditches, are then the only manures, which are bestowed upon the fallows: of this gravel an immense coat is required, and, when such is given, it is by far the best kind of manure known for stiff clay soils; opening and dividing their particles, and rendering them more pervious to the atmospherical moisture, thereby correcting any natural bad quality, that may exist in them, and adding considerable vegetative powers; and, when applied to a light clay, it gives a degree of weight and solidity, which greatly benefits the crops; to this must be added two particular advantages, which it possesses above all other manures, viz. that the smallest quantity is useful, and, when a sufficiency is put out, its effects can never be entirely worn out.

Land, when laid down to grass, after having had a sufficient coat of this stuff laid upon it, spontaneously produces a beautiful sheet of white clover, where, previous to the gravel being laid, coarse four grass, perhaps rushes, were produced in abundance.

Although the ground might have been as well under-drained, as the quality of the land would admit,
yet,

yet, from its clayey nature and tenacity, the drains have had little or no effect; but, from the mixture of the gravel, the soil becomes friable, and the small particles, of which the gravel is composed, occupy several spaces by the mixture so closely connected together, that they form, as it were, a concatenation of pores and interstices, by means of which the water, that heretofore remained on the surface, gradually penetrates through the soil, and so into the drains.

The dung produced, in the generality of the farm-yards of the county, is seldom properly treated: it is put out on the land, before it has sufficiently rotted, and, in many instances, before it has been thrown into a proper state of fermentation; the consequence is, that the seeds of weeds, which all dunghills in a greater or lesser degree possess, are not deprived of their vegetative powers by fermentation; of course, they often produce on the soil, after the manure is spread, an abundant crop. This may be seen by the edges of the potatoe-ridges, that have had a good coat of fresh dung laid on them, producing luxuriant crops of thistles, docks, corn, &c.; add to this, the want of decomposition in many of the substances, of which the dunghill consists, that, without this fermentation, remain in their original state.

I have heretofore taken notice of the great degree of inattention to the situation of the dunghill, in most of the farm-yards, and observed, that they were either
placed

placed on declivities, whence the most valuable juices of the dung oozed out, or situated in hollows, constantly surrounded with water, perishing their most valuable ingredients, and preventing the necessary fermentation.

* Lime is the next kind of manure, that comes under consideration, and, in the mode of applying, and purposes served by it, there are as many different opinions, as upon any other subject whatsoever; some preferring its use in a caustic state, and others when effete, and each opinion supported by plausible argument. But whatever may be the *causes* of lime benefiting the grounds of this county, the effects are visible to every eye; and, although there are many different ways of applying it, yet, every way it is used, ultimate benefit is derived from it.

Doctor Johnston, in his Report of Dumfries, has ably described its powerful effects on the earth. Speaking of lime and marle, he remarks: "These kinds of manures, by highly fermenting, greatly pulverizing, and stimulating the soil, make it speedily and completely force out of itself, into the plants upon it, all the vegetable food it contains; hence land, injudiciously managed for some years, after it hath been sufficiently dressed with any of those stimulating manures, will be reduced to a much worse state than it ever was, or could be in, before such manures had been applied

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* See Appendix, No. X.

to it: by over-cropping, without the application of *dung*, or oily substances, it may be reduced to a *caput mortuum*, that can bear neither corn nor grafs; in this way, the foil, totally deprived of all those oily substances, which are necessary to feed vegetables, and to form a proper cohesion among the fine particles of earth, is rendered so extremely poor and loose, that it can neither feed, nor even support the roots of corn or grafs."

Those, who use lime in its caustic state, generally take it as it is drawn from the kiln, and lay it in heaps of about a barrel (containing in some places thirty-two, in others forty gallons) on every square perch of ground, where it is covered up with the mould, and suffered to remain until it gradually crumbles into powder, after which it is evenly spread, and ploughed in. The ground thus treated is, generally speaking, in fallow, and the lime is by some laid on before the *growing*, in order to be mixed with a greater quantity of earth, and by others after it; lest, as lime is known to sink in the foil, it should subside from the upper stratum, so as to be out of the reach of vegetables; when it is to be immediately laid down to grafs, the former is the practice; when it is to be kept in tillage for any length of time, the latter seems to be the mode generally adopted.

Those, who prefer using lime in its effete state, burn it the year before they purpose making use of it, and
leave

leave it either in a heap at the kiln, or lay it up in a house until it slacks, in order that it may imbibe, from the air, a sufficiency of carbonic gas, which, in its roche state, it has a strong power of attracting to itself. Thus impregnated, it is put out (the land, as in the former case, being fallow) in the same quantity as if in its caustic state, and, when mixed with the soil, it gradually imparts those principles, during vegetation, which it had imbibed from the atmosphere; at the same time it greatly assists in pulverizing the soil, rendering it more porous, and capable of communicating to the plant the necessary pabulum, which, in a considerable degree, it furnishes also.

Some lay the lime, hot from the kiln, on those grounds under grass, which they intend breaking up the year following, and, after it has become perfectly effete, spread it; whilst others lay it, in its caustic state, on meadows, that have, from being too frequently mowed, contracted a coat of moss, for the purpose of destroying it, and ameliorating their condition.

Lime is often mixed with clay, dung, and other substances, to form a heap of compost for the top-dressing of meadows: when this is the case, it is generally covered by the clay or * dung, &c. in its caustic state, and

* It is a bad practice to mix lime with dung immediately; a thick layer of earth of some sort should always be interposed between hot lime and dung, which would otherwise destroy each other. R. T.

and is suffered to slack and become effete in the heap, which it divides, if composed of clay, or crumbles into earth, if composed of vegetables; and, in both cases, it ferments, and renders the heap porous, and more subject to the operation and influence of the air. Wherever liming is practised, there are a few observations, that all parties agree are requisite to be observed, viz. that, before land is limed, it should be very well drained, as stagnant water perishes the lime, preventing the operation of the air on the soil; and the lime, in place of dividing and pulverizing the earth, as would be the case if it were kept dry, forms an impervious cement like building mortar.

That very poor or worn-out ground should not be limed, at least not highly, but that half the usual quantity should be put on at first, and the ground laid down for a few years, and that afterwards it should be again broken up, and limed a second time. That, if the ground, to be limed, is intended to be immediately laid down to grass, the lime should be ploughed in deeply, and mixed with a large proportion of the soil; if kept in tillage, it should be ploughed shallow at first, and the depth of the ploughing increased yearly, to bring back the lime, which has the property of sinking, to the surface of the ground, within the operation of the air, and roots of the vegetables. That, when land has once been *well limed*, "it kills all the four grasses, brings up a sweet herbage, grateful to every sort of cattle;

cattle; it forms a kind of pan under the surface, by which the nutritious particles of the dung are kept longer within the reach of the roots of the plants, and is the means of making one load go as far, as two would before the lime was applied." That the stronger the lime, the lesser quantity should be laid on the land, and *vice versa*; the strength of which is pretty accurately known by its weight, *that* lime being the strongest, which reduces most in its specific gravity,* from the same quantity of the stone, of which it is composed. *That* lime is generally considered the strongest, which is the whitest, and reduces, by slack-ing, to the finest powder. And that lime should be always spread on the ground dry, and on a day when there is a small breeze of wind, which will be found greatly to assist in laying it on evenly, and that the spreader should begin at that end of the field, from which the wind blows, that the dust, which contains the finer particles of the lime, may not be blown off the premises.

Brabazon Morris, of Tankardstown, Esq. who has limed, and, I believe, very judiciously, more land than any man in the county, says, "that, when too great a dressing of lime is laid on rich land at once, the crops become too luxuriant, run to straw, lodge, and produce little else than chaff; and, when laid on that, which is worn out, its effects are much worse; that
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* Appendix, No. X.

the ground being in a sickly state, it is not able to afford nourishment to the crop, as quickly as the lime would urge it to do; and the heat of the lime, for want of those qualities that are necessary to counteract its caustic effects, burns up the crop, and leaves it much worse, than it would have been without it; but when the usual quantity, of a barrel on each perch, is divided, and laid on at two different periods, both the above objections are obviated, because, by allowing the land to gain strength in the interval, it is enabled to bear a second liming. Land, by over tillage, may be so reduced, as not to be capable of receiving more than forty, some sixty, perhaps eighty barrels per acre, according to the reduction in strength at the time of liming; yet he says, if he intended laying down the ground immediately, he would put the full complement on at once, except the land was *extremely* poor, in which case he would lay it down with clover, and feed sheep on it, until it became rich enough to bear the full complement of lime, or other manure, fitted to the soil." To prove the tendency lime has to sink below the upper stratum of the soil, he mentioned a circumstance of his having, some time since, limed a piece of ground on the surface, and, in about six years afterwards, he broke it up, and found the lime in a stratum about four inches from the surface, regularly laid over the whole field; that the ploughing, and mixing that stratum with the surface, had more beneficial effects

effects on the ground, than the lime had when first laid on, as, in the one instance, the ground was only partially benefited, but, in the other, the lime was equally mixed with the whole.

Mr. Morris does not think lime a good manure for clay soils, particularly where limestone or marly gravel can be obtained. If land is in itself of a grassy nature, lime sweetens that grass, a small quantity of which will be equal in nourishment to twice as much before it was limed; yet even this land will not have so close or so feeding a sole, as if manured by gravel or marle.

The extent of Mr. Morris's liming may be conceived, when I state that, in two seasons, he drew from Slane to Tankardstown, a distance of at least three miles, forty-four thousand loads of limestone, which made eighty-eight thousand barrels of lime,* a complete dressing for five hundred and fifty acres, allowing one hundred and sixty barrels to an acre. There are very few parts of the county, where lime may not be had for about one shilling British per barrel, and cheaper when a large quantity is wanted, or when persons using it burn it themselves.

* Three cwt. of stone will make one barrel of lime, which, when burned, will weigh two cwt. as all good stone reduces a full third by the fire; hence each car-load, containing six cwt. made two barrels of lime.

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The following table may be useful to persons wishing for some guide in apportioning the quantity of manure they have, to the extent of ground they wish to benefit by it.

No. of heaps to a load	1	2	3	4	5	6	7	8
At 3 yds. dist.	871	435	290	218	174	145	124	109
At 3½ yards	640	320	213	160	128	106	91	80
At 4 yards	490	245	163	122	98	81	70	61
At 4½ yards	387	193	129	97	77	64	55	48
At 5 yards	313	156	104	78	62	52	44	39
At 5½ yards	259	129	86	64	51	43	37	32
At 6 yards	217	108	72	54	43	36	31	27
At 6½ yards	185	92	61	46	37	31	26	23
At 7 yards	160	80	53	40	32	26	22	20
At 7½ yards	139	69	46	34	27	23	19	17
At 8 yards	120	61	40	30	24	20	17	15

The kilns of this country are generally too wide in the mouth or upper part, where they are charged, and not sufficiently deep, which causes a very great waste of fire, the chief article of expence in the making of lime.

That kiln is most approved of in this country, whose width, in the centre or breast, is half its height, and
whole

whose mouth is at least reduced to one fourth of the height. For instance, a kiln sixteen feet high should be eight feet diameter in the middle, and four feet at the mouth. A kiln of this size will burn, when in full operation, from twenty to thirty barrels per day, which quantity is preferred, as one man is equal to attend it, and it is good work for one man to attend, the stones and culm being left at the top of the kiln. Breaking and burning is done at from three halfpence to two pence, and quarrying, breaking and burning, at from four pence to five pence per barrel, according to the difficulty of quarrying or hardness of the stone.

Lime-burners earn from one shilling and sixpence to two shillings and sixpence per day, which is good wages, and yet not too much, when it is considered, how very unwholesome an occupation lime-burning is.

All kilns should be left substantial at the breast or widest part, and from that to the top, carefully backed behind the lining, to prevent the evaporation of the heat, with yellow clay or quick sand, which latter is preferred, as it is not so subject to open into chinks as the clay, and of course confines the heat more effectually; and whatever backing is put in should be well rammed and closed, to prevent any interstices remaining. A kiln of the above dimensions, in situations not unfavourable, may be erected for about twenty guineas, in which a ton of good Milford culm will burn from forty to sixty barrels of lime; but, if the culm is mixed with

with some *house coal ashes*, as a certain proportion of slack is always contained in the ashes, from sixty to seventy barrels may be produced from each ton.

A parapet wall should be built round the mouth of every kiln, at least four feet high, to prevent strong winds from blowing the heat about, which will sometimes prevent it from drawing, so that during a high contrary wind it often happens, that five barrels of lime are not burned by a kiln, which, when the wind is moderate and blowing from another point will, perhaps, burn twenty-five or thirty. Slane kiln is arched over at the height of about eight feet.

Meadows are either manured immediately after being mowed, or whilst the frosts in winter prevent the car-wheels from cutting up the ground; they are seldom manured after the month of February. Coal ashes, where they can be procured, are used as a top dressing on clay meadows with good effect. Marle, and limestone gravel are also used as top-dressings, when they can be easily procured. Mr. James Molloy of Rathbrac, near Kells, has marled near sixty acres of grass land, some of which he afterwards broke up, at the rate of three hundred and twenty loads per acre; he considers himself amply repaid, although he drew the marle near three miles.

SECT. 4. *Weeding.*

FROM the great depth and tenacity of the soil of this county, the weeds, most troublesome to the farmers, are the whole tribe of couch-grasses, because their roots strike downwards, some of them below the generality of spring ploughings, and, if a small part of the root remains undestroyed, the weed springs with fresh vigour. The principal of these kinds of grasses are the dog's-grass, creeping soft-grass, the tall oat-grass, bennett-grass, the black couch-grass, mostly abounding in dry gravelly land, and the red-stalked creeping-grass, most troublesome in moor and strong wet lands. The tall oat, or bulbous-rooted grass, will increase prodigiously, if suffered to remain in wet grounds, and will smother almost any crop, with which it is suffered to grow. Colt's-foot is mostly found on cold, or worn-out clay soils, and on grounds, which have a tenacious subsoil; yet farmers generally assert, that grounds, which produce it in luxuriance, are in their nature good, although they may be worn out or abused. These can only be destroyed by a good, deep *summer's fallow*, as described under that head; and, for the purpose of putting a stop to the growth of colt's-foot, one ploughing is requisite in April, when it is in blossom, and

and before it sheds its seed, which, if suffered to ripen, will spread inconceivably, being in itself extremely light, and furnished by nature with wings, by which it is capable of transporting itself to a considerable distance.

The thistle can only be destroyed by mutual consent of those people, whose grounds they infest; for the seeds, like those of the colt's-foot, are furnished with wings, and are even more volatile than the last mentioned, and, if not destroyed by all the farmers in the neighbourhood at the same time, one man's destruction of them is labour in vain, as a ditch or a dunghill of one slovenly farmer is sufficient to spoil the work of an extensive district.

They are generally hand-wed from the growing corn, in the month of June, by boys and girls, who either with a small hook cut them out, or with weeding-tongs draw them up by the root; this last practice is, however, reprobated on light soils, as many roots of corn are torn up in consequence.

The thistle is a biennial plant; therefore banishment for a time from grass-grounds may be effected, by cutting them for two or three years successively, immediately before their seed-time, and when the stalk is become hollow.

We seldom see thistles in meadows, that are mowed every year, except they have been manured or dunged, or have had cattle foddered on the grass in winter;

than which last practice, nothing is more productive of thistles.

The dock-root is another of the farmer's plagues, and its banishment can only be effected by carefully rooting it out of the ground, as, should the smallest particle of it remain, it will throw up fresh shoots; and it bears such an immensity of seed, that, if suffered to ripen, they will increase prodigiously. The farmer has, however, the satisfaction, when destroying this weed, of thinking, that it is not in the power of his neighbour's negligence, as in the case of thistles, to render his labour vain. The best general rule for the banishment of weeds is, to plough deep, to cut all parts of the land, and never to plough when the ground is wet.

The dirtiest farms in the county are generally those, that have been badly ploughed, or that have borne too great a succession of crops in a given time, without an intermediate fallow, or even a fallow crop: however, as this subject is treated of more at large in the seventh chapter of this work, it is useless here to repeat the observations there contained.

A method, frequently taken in this country with the utmost success, to destroy furze from grass or meadow land, is to cut them close to the ground in winter, and spread yard-dung thickly over their roots, and for a considerable distance round the place where they grew; after which, if they throw up any fresh shoots, to mow them in the month of July or August with a
scythe;

scythe; the roots are rotted by the dung, and the spring of grass, created by it, smothers the young plants thrown up by the seeds,

SECT. 5. *Watering.*

THE practice of irrigation, or watering meadows, in the district under survey, is hardly known, although there are many situations, where the water seems to invite the farmer to make use of it, particularly in those parts of the county, where the surface of the earth is most uneven, viz. in the baronies of Slane and Duleek, and even in many situations in the more level districts. In short there are very few farms, of any extent, in the county, that would not, by care and attention in the collection of the several small rills, either passing through, or rising in them, admit of irrigation in a greater or lesser degree; yet, in all the enquiries, that I have made on the subject, I have not heard of more than two or three persons, who have adopted the practice, even on a limited scale. T. B. Harman, Esq. who has irrigated seven acres, J. M. Grainger, Esq. and Mr. Patrick Daniel* of the parish of Augher, are the only persons, who have applied water as manure for meadow to any extent.

Wherever

* For a particular account see Appendix, No. VI.

Wherever the practice has been adopted, even in a trifling degree, the greatest benefits have been derived from it; and it too often happens, that the persons, most anxious to adopt the practice, are denied the power, and the persons, who have the power, neglect the practice. It is the nature of man to hold in contempt those blessings and acquirements, that he possesses, and to pant for and grasp at those, that are out of his reach.

Lands, that are to be irrigated, should be first completely under-drained, and no water should be suffered on them, except what is artificially sent there, that it may be taken off and put on, as occasion may require. Immediately after the meadow is cut, the hay should be taken off as quickly as possible, and the water let on the meadow, and suffered to remain there for about a fortnight, and then taken off. When the after-grass, produced by this watering, is eaten by black cattle, which should be the case before November, the meadow should be again flooded for the same space of time as at first, and then let off for another fortnight, and so on, with regular intermissions of about the same time, until the beginning of February; ewes and lambs should then be let on until the middle of April, when the water should be again used for about three weeks, and the field shut up for meadow. It is to be observed, that meadows should never be irrigated in frosty weather,

ther, nor cattle suffered to graze on them whilst under the process of irrigation, nor sheep allowed to feed on them in the autumnal months, as it is then likely to occasion the rot, but in the spring months it affords them excellent feeding.

Feeding sheep on irrigated meadows, in the autumnal months, has, from their being rotted by it, often brought disrepute upon the general practice of irrigation, when, in reality, the fault lay in the persons practising it, being ignorant of its pernicious effects on sheep at that particular season.

It is considered, that pure water cannot pass too quickly, nor in too great a quantity, over ground, that is to be irrigated; it therefore follows, that lands, situated on a gentle declivity, are the best suited for that purpose. But in cases, where the water to be made use of passes through a town, or brings with it any quantity of vegetable matter, or by passing through marl-banks, or beds of limestone-gravel, or other calcareous substances, it is prudent to let it be as sluggish as possible in its passage, that the particles, which it contains, may be deposited on the surface of the soil.

The expence of watering meadows must vary according to local circumstances, but the profits are considered equal to a guinea and a half per acre per annum, and every expence of future manuring saved.

Clay

Clay bottoms, and reclaimed bog grounds, if well drained, are thought to derive considerably more benefit from irrigation, than soils that were naturally dry; as no ground becomes so harsh on its surface in dry hot weather, as drained clay grounds, nor so totally devoid of moisture as reclaimed bog.

CHAP.

CHAP. XIII.

LIVE STOCK.

SECT. I. *Cattle.*

SOME attention, for many years back, has been paid by individuals to the improvement of the breed of black cattle; but until within these few years, the true points requisite to be attained for feeding were very little understood. Great size, large bone, and fine horn, were the only objects sought, and these were in time effectually obtained.

The late William Waller, Esq. more than sixty years since, procured the then best known long-horned breed from Lancashire, which have since remained in Allentown, and have been crossed by some of an improved kind, selected with great pains and judgment by his son, the present Robert Waller, Esq. who imported a bull from Leicestershire, of the late Mr. Bakewell's breed, for that purpose; he has, from the laudable motive of improving the strain of black cattle in that part of the country, permitted his neighbours, friends, and tenants

tenants to have the unreserved use of him, and of some calves gotten by him; the consequence is, that the breed of cattle in his neighbourhood is so improved, that there is hardly a cottier within three or four miles of Allentown, possessed of a cow, which does not display some traces of the Leicester blood.

The late Gorges Lowther, Esq. and Mr. White of Cookstown, had each the best cattle of their day, bred from imported stock, but since their death, little attention has been paid to their crossings, except by the Rev. William Irvine of Dunshaughlin, who informs me he has preserved the breed pure, and that he is the only person who, to his knowledge, has done so. By the different persons, who bought them at their auctions, they have become coarse and large-boned; they grow to a great size, and are difficult to feed; besides, their principal weight consists in the coarser parts.

These were the first to introduce good stock, after which the late Earl of Beftive, the late Bishop of Meath, and the late Robert Tighe, Esq. imported some. These may be said to be the only persons, who have been possessed of original stock in the county, and to one or other of which all the improved breeds of the district may be traced, except those introduced within these last few years, which, for sake of distinction, I shall here term the modern improved stock.

Those, who have paid the most successful attention to crossings and the preservation of the *original* stock,
are,

are, Robert Wade of Clonabeany, Esq. the late Mr. Reilly of Newgrove, Sir Francis Hopkins, Bart. and Mr. Walsh of Oatlands, near Drogheda, who all bred from Mr. Lowther's, and Mr. White's strain; the Rev. Mungo Noble, and John Young, Esq. who bred from Mr. Waller's stock; Mr. Keating of Kells, Mr. James Kellett of Fordstown, William Garnett of Kells, Esq. and some few more in that neighbourhood, who bred from the late Earl of Beftive's; Mr. David Thompson of Oatlands, and Mr. Henry Garnett, with some others, who bred from the late Bishop of Meath's stock.

At the fairs in the neighbourhood of these several noblemen and gentlemen, bullock calves from nine to twelve months old, of this original breed, fell from four to six guineas each, and those heifer calves, not reared by the owners, fell at different prices according to the fancy of the purchaser. Mr. Waller sold the two year old heifers, which he did not like to keep, this last year for twenty guineas each. The Rev. Mungo Noble never sold any heifers of his breed for less than twenty guineas each.

The greatest advantage arises to society, from this dispersion of improved breeds through the country. It is thus, and thus only, that the breed of cattle can be generally improved; to think of effecting a thorough improvement at once, is a ridiculous idea. When a gentleman's stock is good; his tenant's stock will in time

time be good also, and I may safely aver, that from the introduction of good bulls, and the encouragement given through the medium of high prices for good calves, the general stock of the county is now one-fourth better, than it was ten or twelve years ago. One proof of the above assertion is, that the cow, which got the premium at the shew of cattle last November, was bred by a poor man in the neighbourhood of Athboy, from some of the improved breeds of the place, and sold to Mr. Martly, who fed her on grass only; she was considered a great beauty, and was allowed by all the judges to have put the flesh upon the best points, a consideration deservedly of the greatest weight with breeders of stock. The principal possessors of the modern improved stock are, Henry Garnett of Greenpark, John Pain Garnett of Archall, and Samuel Garnett, jun. of Summerseat, Esq's. who have been at considerable expence in purchasing cattle, that were imported, and some bred from imported cattle; and John Pollock of Mountaintown, Esq. who has some very fine cows, and a bull of the late Sir John Parnell's breed. It may not be amiss to mention the cattle and their prices, and to give prints of some of the most superior of them, that have been brought into the county by the different breeders of modern improved stock, as the names and pedigrees of them are familiar to almost every judge of such in the kingdom, and their form to many; some of them were exhibited at the
general

Drawn from Nature & Etched by J. Brown Junr

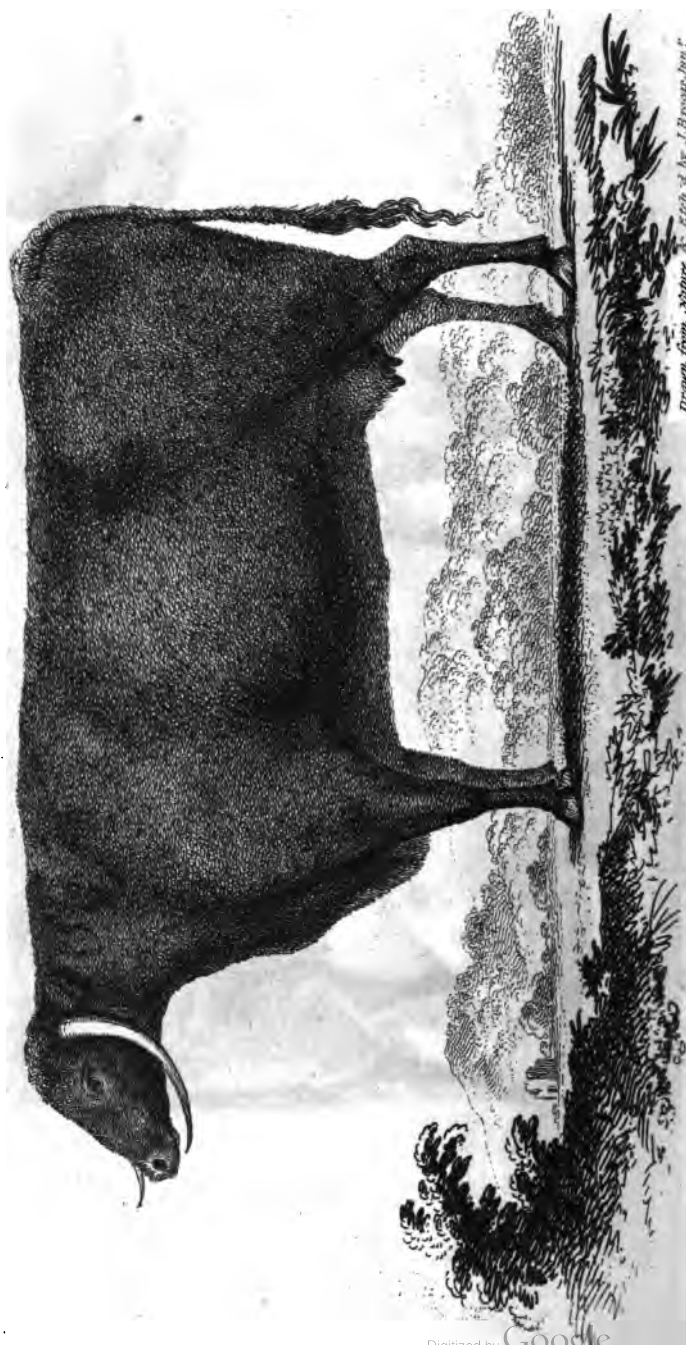
Advertisement of Dr. J. J. Jewell - Post of Greenpark Co. of Meath.



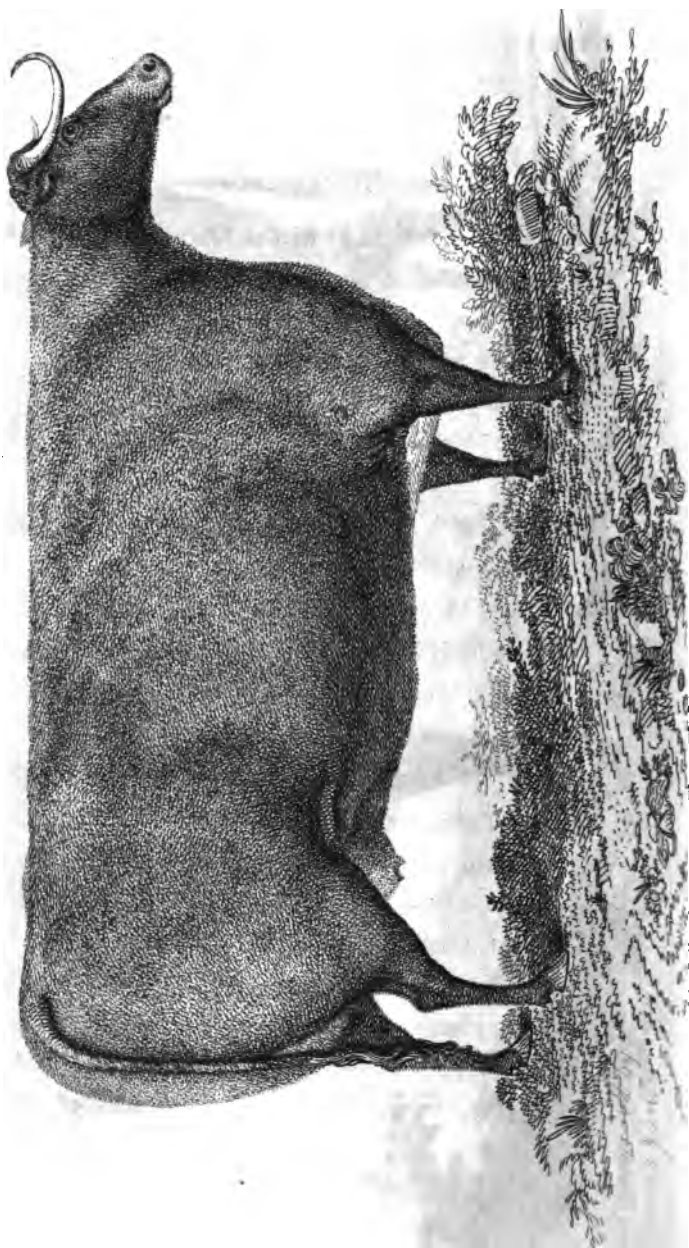
Drawn from Nature & Etched by J. Brown Junr.

The property of H^{on}. Gerritt Esq. of Greenpark 1^o. of Natchez.

BLOSSOM.



A Cow the property of R. Thompson Esq.



general meeting of the Farming Society in Dublin, in November 1801.

Mr. Jacob's Stock.

	£.	s.	d.
Lady, a three year old heifer, whose calf, a bull, fold at five months old for forty-two guineas, bought by Messrs. Garnetts,	75	1	6
Grace, an aged cow, - - do.	35	5	3
Gracious, two years old, - do.	54	12	0
White back two penny, four years old, in calf, bought by Mr. Young, and fold by him to Mr. Garnett at a considerable profit, - - - - -	45	10	0
Languish, aged, in calf, - do.	35	5	3
Cherry Languish, - - do.	31	17	0
A yearling heifer, - - do.	23	17	9
Thais, three year old, in calf, bought by Mr. Waller, - - - - -	56	17	6
Loop Languish, aged, - - do.	34	2	6

Stock bought at Mr. Wynne's auction.

Painted Lady, confidered one of the best imported into Ireland, by Messrs. Garnetts, - - - - -	102	5	6
Charmer, bred by the late Bishop of Meath, and fold to Mr. Wynne by Mr. David Thompson, - - - - -	41	19	9
Strawberry, a cow imported by Mr. Wynne, bought by Mr. Henry Garnett,	56	17	6
The			

The above are principally of the new Leicester-breed. Gustavus Lambart, Esq. has imported some Hereford and Devonshire cows lately; I have not heard their price; his, I imagine, are the only Herefords in the county. This importation of cows, and the hiring of good bulls, is greatly the *rage* at present, and is likely to answer well. Lord Conyngham has hired one, for which, I am told, he gives Mr. Astley one hundred guineas for the season, and limits him to a certain number of cows; he lets him at ten guineas per cow. Sir Marcus Somerville imported a Hereford bull, and two beautiful cows in calf. Thomas Rothwell and Henry Garnett, Esq's. have also hired one from Mr. Astley, last year, and let him out at three guineas per cow.

The objects in breeding black cattle are two-fold, beef and milk; and those, that can unite them both in the greatest degree, may be said to have arrived at the desideratum of breeding neat cattle. Those, who breed for beef, look to the kind, that grow to the greatest weight, and that have the greatest propensity to fatten on the smallest quantity of food, and at the earliest age; and they, who breed for milk, look not for those, that will give the greatest quantity. Though the Holderness breed yield the greatest quantity of milk, yet the smaller breed, such as the Devon and Hereford kinds, produce the greatest quantity of butter, and the latter

latter will thrive with keep, on which the former would starve.

It is generally imagined, that these properties, of fattening and milking, cannot be united in a great degree; that those cows, which have the greatest propensity to fatten, not only give the least milk when in the dairy, but also go soonest dry, is an acknowledged fact. Let the shape of a black beast be what it may, it is an absurd idea to suppose, that it will fatten on a *bad soil*; the shape may, in a great measure, contribute towards fattening a beast on a *small quantity* of food, but then that food must be good; and, to be possessed of a good strain of cattle, we must be first possessed of good keep; from whence it follows, that the stock of a country must be always adapted to its soil.

I cannot do greater justice to the subject under consideration, than to lay before the public a letter I received from Samuel Garnett, Jun. Esq. in answer to my queries under this head, and with it I shall conclude this subject.

Summerseat, March 26, 1802.

SIR,

As you have expressed a desire, that I should state to you my opinion of the improved breed of long-horned cattle, and the motives, which induced my brother and me to purchase some individuals of them at a very high rate, I cannot, in justice to the very useful

ful work, in which you are engaged, refuse my mite of information to the best of my ability.

From all that I have seen, heard, and read of this breed, they have a peculiar tendency to fatten at an early age, which must recommend them to the grazier, and to put up flesh of the finest grain, and of the best quality, which should recommend them equally to the consumer, who, on account of the extreme fineness of their bone, obtains, from a given weight, a much greater quantity of animal food from these, than from large-boned animals. To furnish more meat, of a better sort, and at an earlier period, from a given quantity of food, constitutes the chief merit of the improved breed, and their superiority over other varieties; this effect is produced, not only from their being quick feeders, but also from the formation of the animal, in which the useful and valuable parts predominate, and those, which are unprofitable, are comparatively lighter than in any other breed. I am not myself anatomist enough to explain to you, how the quality of the flesh depends on the formation of the animal; but those, who are, could, I believe, satisfy you minutely, of what I believe to be the case, that in proportion to the bone is the muscle, and in proportion to the muscle is the grain of the meat; that, therefore, if the bone is heavy, the grain must be coarse: but this breed is peculiarly marked by an extreme neatness of bone, and by an exemption from all muscular coarseness. Some persons, accustomed

accustomed to the very large cattle, which this county and other rich pastures are capable of feeding, have objected to the moderate size of the improved breed, but, I think, unjustly, from the above principle; and even were the individuals of it never to exceed six hundred weight, I don't know whether it might not be a very useful size for many parts of Ireland; but diminutiveness is by no means the character of the breed; even those heifers of ours, which you saw, small as they appear, will fatten to more than six hundred weight; and the cow we pointed out to you, as having cost upwards of a hundred pounds, would come to nine or ten hundred weight at least, combining, as she does, both size and neatness; for this latter quality seems to be the ground-work of thriftiness in their blood. Wherever you find neatness, you are sure to find condition, be the size what it may; this I have lately had an opportunity of remarking, in my observation of a very extensive stock, consisting of thirty-two cows of the highest blood, imported from Leicestershire by some friends of mine, who are joined in breeding long-horned bulls for hire. In so numerous a stock, the size must naturally vary, and I observed that, in general, both large and small were in the highest condition, on the same keep, and that by no means such as this county affords. I had also an opportunity of having seen how this blood turn out as dairy cows, from an accurate registry of one of the

x

gentlemen

gentlemen I have mentioned, by which it appears, that the milk of each cow averaged nineteen quarts a day. The probability is, that their extreme tendency to put up flesh may occasion their going dry something sooner than a big unthrifty kind; but while they do give milk, it seems to be in as great quantity as in any common dairy, and I understand that it is certainly of a richer quality. But this tendency to go dry early in the season I conceive to be of the greatest advantage; the cows are dried off at the end of autumn in a few days, without trouble or risk; if well fed, they will be fit for the butcher in a short time, and, if kept for breed, are in condition to nourish their calves while carrying them, and to have a plentiful flow of milk for them when dropped. The extraordinary improvement of a young bull, imported by the same gentlemen, struck me very forcibly; he was at first thought but little of by those, who were unversed in blooded stock; but he is now spread into the greatest symmetry and beauty. I have viewed the drop of calves from him, of last year, and the beginning of this, and the drop of the year before from his sire, who stands in Leicestershire (Aftley's Shakespear), all interesting to a breeder, and confirming me the more in my opinion of the superior excellence of the improved breed. I have now, Sir, in giving you my candid opinion of this breed, also given you my motives for purchasing individuals of it, at a rate which seemed to surprise you. My brother
and

and I were educated in the *old school*, and do not relinquish its tenets from fashion or caprice, but from a thorough conviction of the private advantage, and public benefit, that must accrue from breeding and disseminating a species of stock so valuable as that, which is the subject of this letter.

I have acceded to your request, in writing you my sentiments; I fear they are in too undigested a form for your publication, but if they can be useful in any way, it will afford much satisfaction to,

Your ever truly,

S. GARNETT, JUN.

SECT. 2. *Sheep.*

THE breeding of sheep is not as extensively followed in this country, as the breeding of black cattle, and, except in a few instances, has not been practised; as the rearing lambs for Dublin market, having been found far more beneficial, brings a much quicker return, and is, consequently, to the generality of farmers and graziers most advantageous; but this practice having been already mentioned under the title *Feeding*, we shall not dwell longer on that subject.

Weight was almost the only object of consideration with the breeders of sheep, until within a few years

back; and the person, who could bring his stock to the greatest size, was considered to have the best kind, with little or no regard to the shape, or disposition to fattening, that they might possess, or to the necessary age, at which they were to arrive, before they could be fit for market, which in most instances was four years, at which time, however, they weighed from thirty to forty pounds per quarter. *Close* breeding, or, as it is called in England, breeding *in and in*, was then deemed a bad practice, as it was considered to diminish the size, and make the animal, so bred, more weakly in its constitution, than if a different mode was pursued.

Although this was heretofore the prevailing idea, yet the experience of latter times shews, that an opposite course should be followed. It now seems to be a well founded opinion, that all animals, intended for slaughter, should be bred as closely as possible; except a cross from a breed possessing the qualities likely to fatten more easily, and at an earlier age, can be procured, in which case it is adviseable, but not else; at the same time it must be understood, that all animals, requiring mettle and spirit, should be bred widely, because, if bred too closely, that activity and spunk, necessary to their perfection, will be diminished.

It is very visible to those, who breed hounds, setting-dogs, or game-cocks, that close breeding renders them much less mettlesome than they would be, if bred more widely. I have been assured by a gentleman,
who

who has bred game-cocks as extensively as most men, and who was deemed to have as good kinds as any other, that cocks, bred too closely, became fulky and stupid, would not fight, and yet, from their true mettle, would stand to be cut to death by their antagonists. The same gentleman kept one of the best packs of fox-hounds in the kingdom, and he says, the want of mettle was invariably the consequence of breeding them too closely; from which it follows, that the more closely all kinds of animals are bred, the more sluggish and inert they become, and, consequently, the more likely to feed quickly; as there is not any thing tends more to the fattening a beast, than quiet and contentment, so there is nothing prevents their thriving more than wildness or timidity; and this must be considered as one cause, why pet sheep fatten so much more quickly, than those reared on their mothers.

It is asserted by some, that, let a man's stock be what it may, he can, *in time*, bring it to the greatest degree of perfection, in point of early fattening, and fine bone, by close breeding, even amongst his own flock, a proper selection of males and females, and judiciously crossing them amongst each other, thus counteracting the defects of each. It is well known, that it was by these means the late Mr. Bakewell brought his stock of all kinds to the unrivalled perfection, which they attained.

Those,

Those, who have paid any attention to the breed of their sheep, have brought them to a considerable size; yet many of those, who heretofore made size their study, now find they have been in error, and have, within these three or four years back, been in the habit of hiring rams of the new Leicester breed; and some of them have parted with their old stock of ewes altogether to persons who, anxious to procure what they think good stock, have purchased the culls of the old breeders with the greatest avidity.

Richard Rothwell, Esq. has gone to considerable expence, in bringing from England rams and ewes of the new Leicester breed. He lets his best rams at one guinea each ewe, and he this year (1802) purposes letting his young rams for the season. Those he possesses are the best of the kind as yet imported into this country; prints of a few of them accompany this Report. Lord Conyngham, Thomas Rothwell, Esq. of Rockfield, and Gustavus Lambart, of Beauparc, Esq. have each imported some of the same breed. George Lucas Nugent, Esq. has bred from imported rams; his stock are very fine, combining weight and quick feeding. Brabazon Morris, Esq. and his brother William have had, for these many years, the best breeds in the country; their sheep grew to an immense weight, and were easily fed *for their size*; they have, however, in some degree, altered their system lately, by crossing with the new Leicester, and Mr. Brabazon Morris has now four hundred

hundred ewes, of the cross, in lamb by rams almost thorough-bred Leicesters.

Some years since, he imported some Spanish sheep, to mend the wool of the home-bred stock, which he at *that time* thought was getting rather coarse. In this he has succeeded tolerably well; yet he found, that the propensity to fatten early, and the production of fine wool, are incompatible in the same breed; but in a course, as closely as it is possible to unite them, he has endeavoured to proceed. Since, then, these two advantages cannot be united in the same animal, it becomes a question, which of the two is most beneficial to society? There can be little doubt, that the quick feeder is the most profitable to the grazier, and, it may be presumed, to the consumer also, as the quickest feeder has generally the smallest bone. But with the breeder, who has the wool for three shearings, it is another case; the question then is, whether the fineness of the staple may not, in some degree, compensate for the additional year's keep, as the fine-woolled sheep must be invariably kept until three years old, whilst the coarse-woolled one is sold fat at two,

It seemed to be decidedly the opinion of the members of the Farming Society, at their general meeting in Ballinasloe, last October, when Mr. Morris produced the samples of wool, and shewed their different degrees of coarseness, in proportion as they were removed from the Spanish, and partook of the Leicester breed,

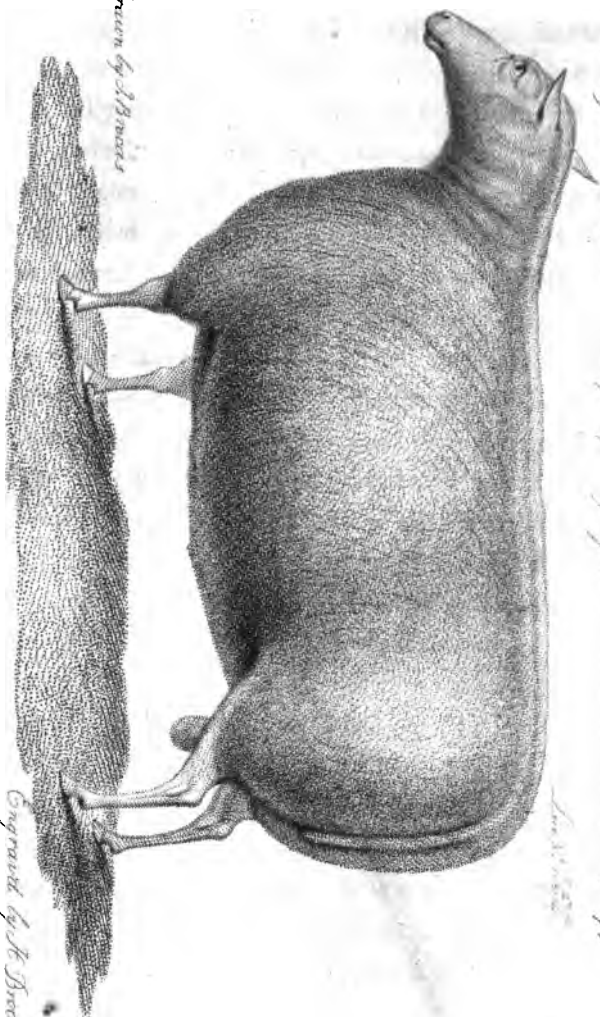
breed,—“That with the graziers, or even breeders of this country, wool ought to be a consideration but of a secondary nature; that the new Leicester breed produce good combing wool, and that the sheep of more mountainous districts would, of necessity, produce a sufficiency of fine carding wool, the Leicester not being sufficiently hardy for such situations. That the kind of sheep most beneficial to society is that, which lays great flesh upon small bones, and that it ought to be preferred, wherever the nature of the soil will admit.”

Mr. Dempsey, of Kells, has also a very large breed of sheep; he has, for these many years, got good prices for his rams, for the purpose of getting lambs for the market. Mr. Keating, Mr. Barnwall, and many others, have also been in the habit of breeding rams for the same purpose, but none of them to the extent, or of so valuable a kind, as those bred by Mr. Morris and Mr. Dempsey.

In breeding lambs for Dublin market, very little pains are taken, further than to produce a strong, large kind; for which reason three rams are generally put to every hundred ewes, and never less than two. I should imagine, that the new Leicester rams would be the most profitable kind to put to ewes, to procure market lambs, as this breed invariably fatten earlier than those of the other kinds; and I know an instance of one ram being given to 116 ewes, all of which, except two, had lambs, and many had twins, which speaks for their being good riders.

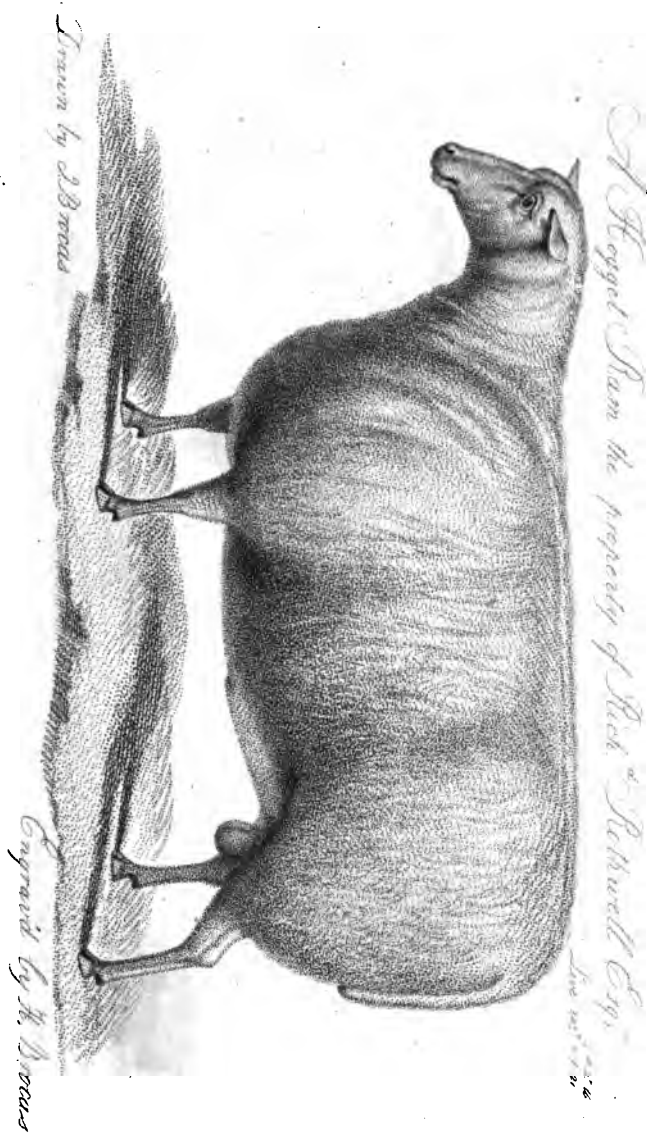
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An aged Ram the property of Rich^d. Redburnell Esq^r



Drawn by J. B. Davis

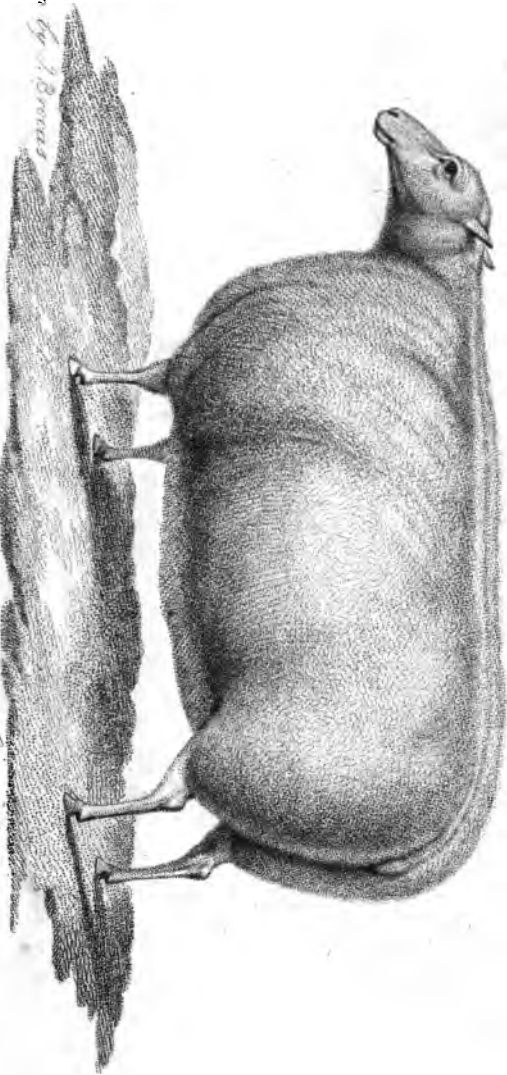
Engraved by J. B. Davis



Line 44, 1.1.21



No. 1 of the property of Rich. Nuttall Esq.
Live us, 1.1.21

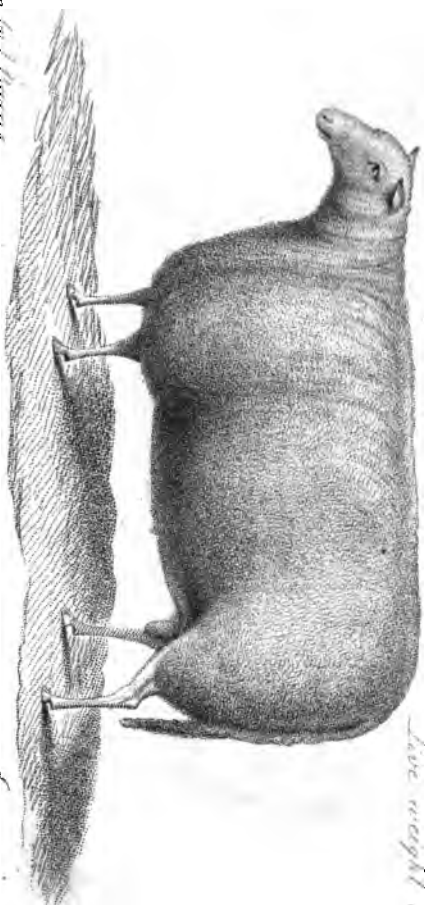


Drawn by J. Brown

Engraved by H. Brown

No. 2 - Lamb the property of Rich^d Mithuwell Esq.

Live weight 6.3 lb



Engraved by H. Broom

Engraved by H. Broom

If the grazier can procure early pasture, he wishes his lambs to make their appearance as soon as possible, the price being proportionate to the season he is enabled to sell them in; but if he be not prepared with a sufficient quantity of rich nourishing food for the ewes, for some time before, and shortly after yearning, the lambs become stunted and ill thriven, from a lackage of milk, after which it is difficult to fatten them; he therefore postpones his lambing time, to the season he is likely to have sufficient food.

Ewes go five months with young, and the fatter they are at the time of admitting the ram, the more likely they are to produce twins; for which reason, the breeders of running stock have their ewes at that season as fat as possible; those, who breed for Dublin market, have size and strength more at heart, and of course prefer single lambs.

I shall conclude this part of the subject with inserting a letter I received from Brabazon Morris, Esq.

Tankardstown, Aug. 14th, 1802.

MY DEAR SIR,

AT your request, I sit down to give you what information I can upon the subject of sheep breeding, in order to which, I think it necessary to take you back near fifty years (to mention the origin of the stock, which I have bred from, and crossed upon), at which time my father was in the possession of the then best
known

known breed, brought from England by the late General Lambert, at a time when there was a strict prohibition from exporting any from the British ports. Of a number of this breed, as I said before, my father was possessed, which he afterwards crossed with some of the late General Blithe's breed, which were also imported, and were the largest breed ever known in Ireland, and generally weighed, at between four and five years old, upwards of 50lb. per quarter, and one in particular weighed 56lb. These sheep of General Blithe's were the same as the late Mr. Bakewell bred from, who was in the common error at that time, of making size his principal study; but to him is due the merit of being the first to see the advantage of closing the points, and sacrificing size, in some degree, to the superior advantages of early and quick feeding,

When I came of age, some of this large breed remained in my family, and I had the good fortune to procure one hundred ewes at Mr. Blithe's auction; with this stock I commenced sheep-breeder, and with some pains and attention to the crossings, I closed them very much; and though I reduced them in weight, yet they fattened earlier, and were, upon the whole, a more profitable kind.

My first deviation from this large breed arose from my crossing with Mr. Daly's sheep, provincially termed the *black-faces*; this I did for two or three years, and it injured my stock so materially, that it required some years

years to bring them back to their original size and quality, *evenly*.

I have been long of opinion, that to close the points of my sheep was requisite, and, from that conviction, have been in the habit, for more than five years back, of hiring new Leicester rams, and crossing them with the closest of my ewes; but in a stock so numerous as mine, (I keep 500 breeding ewes) it required some time to effect my purpose, yet I think I may safely say, that I have now effected it, to the utmost extent of my wishes.

As to my opinion on the subject, I will candidly acknowledge that, though I bow to the taste and rage of the times, in falling into the thorough Leicester breed; yet I think a short time will serve to convince the public of the necessity of retaining a certain proportion of the native blood, to furnish a quantity of lean, in proportion to the fat, which is by no means the case at present; and as the sheep, by his growth and wool, (which in the thorough bred Leicester sheep is not, either in quantity or quality, equal to the native breed) will amply compensate the grazier for any little additional time, which he may take to fatten him, the loss will not be any thing. I think a breed of sheep, composed of two parts Leicester and one part native, is the kind, that will be most to the public taste, and to the profit of the grazier, as they are much more hardy, and do not require so much shelter, nor to be so highly fed

fed in winter, as the thorough breed, and that it is the breed, that will be adopted, when the present rage subsides a little.

As to the breed most fit to produce market lambs, I think, a ram possessing two thirds of the Leicester blood is the best to cross with the Connaught ewe, as the lamb will be early, and easily fattened; and from having so much of the native blood in him, he will be more hardy than if thorough bred.

Leicester ewes are subject to get too fat whilst in lamb, and if they are suffered to fall away in the smallest degree, they are apt to slip their lamb, which at best, when very young, is but a tender, delicate, and diminutive animal.

Thus I have, in compliance with your request, given you my sentiments on the subject of sheep-breeding, and though I know they will be combated by many, yet every man has a right to an opinion, and this is mine, which I have given you with as much pleasure, as I would on any other subject you may think it necessary to consult me on.

I remain,

dear Sir,

your most obedient humble servant, &c.

BRAB. MORRIS.

To Robert Thompson, Esq. Oatland.

The

The disorders, to which the sheep of this country are most subject, are, the *rot*, the *scab*, *scald in the claw*, *foot-rot*, and *staggers*, and the ewes are subject to *red water*, when they grow old.

The first of these, the *rot*, is attributed to different causes, some asserting, that it is in consequence of feeding sheep on wet bottom land, productive of sour grass, or where, from damp, the grass has but a slender hold of the earth, and comes up by the root, when the sheep plucks it, by which means the animal cannot help eating a certain proportion of clay, with every mouthful of grass; whilst others attribute it to the land, on which the sheep are fed, being over-stocked, and the grass dirtied by their tramping. Some think it is caused by the wetness of the season, (but surely this cannot be the case, else all sheep would be equally affected by it) and others by the moss, eaten by sheep on pastures, that are too bare. Let what will be the cause, the effect is well known by every person; who deals in sheep, and dreaded accordingly, as no cure has as yet been discovered but the butcher's knife; and the grazier, who finds he has the misfortune of getting a rotten lot of sheep, ought immediately to dispose of them in the most expeditious mode he can, as the first loss is always the best.* The principal symptoms of the rot are, black-
ness

* In the year 1797, I bought one hundred ewes in Ballinascloe, for which I gave 30s. per ewe, and, in some time after
I brought

nefs all over the skin, the kidneys lank, the wool on their backs feeling dead, a swelling under the jaws, and, upon lifting up the eye-lids, the small veins there situated appearing quite pale, beside several other appearances too numerous to insert. I have heard of a lot of sheep with an unsound appearance, sold at Ballinasloe, subject to the death, that is, after the parties have agreed as to the price, the buyer challenges the rot, and kills the sheep he thinks most likely to be rotten; if upon examining its liver it appears to be unsound, the seller loses the slaughtered sheep, and the bargain is null and void: but if, on the contrary, the sheep appears sound, which is very visible from the state of the liver, the bargain stands good, and the buyer suffers the loss of the slaughtered sheep. This is, I think, a good plan for the buyer.

IF

I brought them home, I found they were affected with the *rot*; but thinking they might possibly rear their lambs, I kept them until February, when they began to look extremely ill; I then drew the worst half score, which I sent to Dublin, and sold for eight shillings each, and the week following I sent another half score, still in hopes the remainder would be able to feed their lambs, but all in vain. I was obliged to send them all off, except one score, which I kept for experiment, and they averaged 7*s.* per ewe. Those I kept reared their lambs badly, and then died. Had I sold them all off in Smithfield, when I first found they were diseased, I should have comparatively lost but little; even though I had sold them for what I afterwards got for them, when considerably fallen away, I would have saved their keep for three months at least. R. T.

If any cure could be devised, it would be of inestimable advantage to the kingdom; though many have attempted it, I have not heard of any person, who has succeeded.*

The scab is one of the most troublesome diseases to cure, to which sheep are subject, and when it gets to any considerable height, it requires the strongest preparation of mercury to eradicate it; and though it often appears to be cured, yet it frequently breaks out in autumn again.

In the month of October, 1799, I bought some ewes of the new Leicester breed, that were very scabby, and proceeded to cure them, but found it impossible whilst their wool was long; so I had them shorn, and very well dressed three times with the strongest kinds of sheep-water; they were to all appearance cured at the time of applying the last dressing before November, but were as bad as ever at the ensuing shearing time.

In May following, I had them dressed a second time, after shearing, and they seemed perfectly well, yet in the month of September they broke out again. I began to despair of being able to eradicate the complaint, and

* One gentleman proposed, as the rot was a liver complaint, to rub in some mercurial ointment each day, as a cure. The remedy is so simple it is worth a trial, and one circumstance in support of the opinion is, that sheep, that have had the scab, and have been dressed for it with strong preparations of mercury, are seldom or never rotten.

and was about to part with them, when a friend advised me, as they were so good a breed, to try to cure them once more, and at the same time gave me a form of composition for sheep-water, which was as follows : " Let as much common salt be dissolved in water, as the water is capable of holding in solution, to every gallon of which, let half a pound of good leaf tobacco cut small and pounded with some of the water be added; to every gallon of the sheep-water, let one ounce of corrosive sublimate of mercury, and half an ounce of sal ammoniac dissolved together in about a pint of water, be added, and well shaken every time it is used." I tried this, which cured my sheep effectually, nor have they broken out since that time. In the application, the skin ought not to be cut with a knife, as is the common practice with shepherds, but merely irritated with their nails, or with a crooked iron, and the water thus prepared should be soaked into the skin.

It often happens, that sheep under cure with this water take a complaint in their bowels, which first appears as a great costiveness, for two or three days, and then turns to a lax, which carries them off in a very few days. The cure for this, and the cure I never knew to fail, is, to give them from six to twelve grains of ipecacuanha in a little new milk, when the costiveness first appears, or even after it has turned to a lax.

For

For the scald in the claw (which is by some considered contagious, as it is found to rage in one flock of sheep, and not in another, although both are in the care of the same shepherd) butter of antimony, ground down with sweet oil, to the consistence of paste, and daily rubbed to the claw whilst the lameness continues, has been strongly recommended. The remedy most commonly used by the shepherds of this country is, an equal quantity of acid of vitriol and vinegar mixed together, and laid on with a feather; the sheep being kept tied, until the application has dried on the foot. This disorder is occasioned by long grafs in the month of September and October, when the heavy dews, that fall about those seasons, keep their feet continually wet. The scald seldom originates in bare pasture; on the contrary, a bare pasture, and stubble ground, are considered as cures for the disorder. The old Irish, large, gummy boned sheep, are most subject to this complaint.

The foot-rot is a disease situated in the hoof, and is generally occasioned by negligence in the shepherds, in not keeping them properly pared; thus the nail becomes too long, and bends under the sole of the foot, enclosing dirt, which works up, as gravel in horses hoofs, and not being noticed by the shepherd until the sheep becomes lame, it becomes often necessary to take off the greatest part of the hoof, before the dirt and gravel can be entirely extracted.

Y

Although

Although driving sheep long journies on wet hard roads often produces this disease, yet, in nine instances in ten, it originates in the want of duly paring the hoofs. Acid of vitriol, rubbed to the hoof after paring, and keeping the sheep tied until it dries, is considered the best cure; but frequent examination and paring of their feet, once a month at least, is deemed the best preventive.

The staggers, or vertigo, is the most insidious complaint, to which sheep are subject, as its effects are so instantaneous, that the proprietor is often unable to turn them to any account. When sheep and lambs are in a thriving state, they are most subject to it; in spring upon clover, and in winter upon turnips, sheep are most apt to be seized with this complaint, and lambs when the milk becomes very plenty. Bleeding is said to be a prevention of the disease, though I never have experienced its effects as a cure.

The *red water* is a disorder very fatal to old ewes, and also to many young sheep, if fed on clover; garden parsley is said, by acting as a strong diuretick, to prevent it, though it fails in the cure when the disease is once contracted.

SECT.

SECT. 3. *Horses, and their use in Husbandry, compared with Oxen.*

THE draught-horses, which are most prized in this country, are those, that are light, active, and stoutly built, such as are bred between the faddle and the waggon kind. As the machines, generally used in the carriage of goods, are light, the weight of a horse, after a certain size, is thought to weary him, and the quantity of food, necessary for his maintenance, becomes a matter of serious consideration. The generality of work-horses, however, stand in great need of improvement, and it is often ridiculous to see the wretched animals employed by many of our farmers in ploughing.

Every farmer, holding one hundred acres and upwards, keeps one or two mares, which he breeds from, and works to within about a fortnight of their time for dropping the foals; these he rears, and, in the spring before they are three years old, he either sells them in the halter, or works them in his own team; from which time, to the day of their death, they lead a life of hardship, and often of starvation.

Bad feeding, and hard working in their youth, prevents their growing to the size they would otherwise

attain ; and bad feeding and hard working keep them in a state of wretchedness, hardly to be conceived.

In breeding draught cattle by gentlemen and farmers possessing capital, more pains are taken ; but then the scarcity of good stallions is very great ; the universal fault among them being the want of carcase, in proportion to their limbs.

The introduction of a large, well-proportioned stallion into the country, would be a good speculation ; a cross between him and our light mares would produce the kind of cattle most in repute through the district, and fitter for the cars and carts in common use, than the thorough-bred waggon-horse. I understand Lord Conyngham* and Gustavus Lambart, Esq. have each imported good stallions, which they purpose letting out. Those, bred for the road, and the sports of the field, are not to be surpassed in any country. Stallions of the best breeds are kept in different parts of the county, and are let to mares at from one to five guineas each.

As horses, reared in mountainous countries, have invariably better forehands than those, reared upon level tracts, because, from the formation of the animal, he cannot, with convenience, feed from ground lower than

* Lord Conyngham lets his, a very fine horse of the Disley breed, much too high to benefit the country, which, I am convinced, is his Lordship's intention in keeping him ; few or no farmers are willing to give three guineas for a leap.

than the level of his fore-feet, of course he must feed from that part of the land, which is immediately above them, so I should deem it a good practice for breeders of horses to have the racks, from which their young cattle feed, situated a good deal above their heads; by stretching continually to it, their necks will be lengthened, their forehands will become more upright, and their shoulders gracefully sloped backwards to the saddle; the pavement also should be somewhat higher under their forepart, as, by this method, they will be prevented from having ewe-necks, which would be the case if obliged to reach their food from an eminence, when their hinder parts were higher than their fore.

How much a better forehand does a horse appear to have, when standing with his head up, than he does when he stands with his head down hill, or even on level ground? If, therefore, all young animals grow into the shapes they are generally kept in, it follows, that those horses, which are kept in proper shape when young, will be of the best shape when they grow up.

In the army, how erect do soldiers become, from being drilled even for a short time?

Next to early working, and bad feeding, bad breaking is to be complained of. In this branch, there is not any pains taken by the generality of farmers; the most usual means is, when the horse is three years old, to put him in the harrow, and, if spirited, work him down;

down; if sulky or stubborn, to flog him unmercifully, often about the head, but gentle means seldom or never are tried. By this treatment the horse, from being flogged for not doing what he knew not how to do, becomes sulky and vicious, and thus, by mismanagement, his fine spirit is too often ruined, when, with proper treatment, the noble animal would willingly exert every nerve and sinew of his powerful frame, to serve his master. It is but kind to try gentle means with young horses, and to endeavour to coax them into their business before severity is practised. If gentle means fail, harsher treatment must be tried, but, nine times in ten, gentleness succeeds better than roughness and severity.

All cattle should, however, be broken to draught in winkers, and should be spoken to before they are struck, as the word *attention* is given to the military, which if they do not heed, the whip may with propriety be used. They should be always used to one set of words, and, if possible, to the same voice; confusion of sound would then be avoided, than which there is not any thing more detrimental to the breaking of horses.

The number of horses, kept by the farmers of this district, is in the proportion of one to every ten acres of land; there are but few bullocks kept for work, except by gentlemen and farmers, who unite the different branches of farming and grazing together.

Their

Their inaptitude to perform the market service on the hard roads of this country, and their general weakness in spring, except extremely well fed, when the greatest exertion of strength in cattle is required by the farmer, have been the reasons, assigned to me, for their not being employed more generally throughout the country than they are; wherever they are made use of, they are worked in collars by the neck, two abreast, and four or six in the plough; they are driven without winkers, and, in most places, instead of a neck-collar, a twisted straw rope is used, called a *fuggan*, which, although rather offensive to the eye, is, nevertheless, as safe and easy to the beast as a collar, and much cheaper. They seldom or never get any corn to eat, and are, in this respect, an economical animal for farmers to employ; they are kind in draught, and well adapted to the generality of our soils; they are broken in the winter,* after being three years old, and are continued in the work for three, perhaps four or five years, during the first two years of which time, if well fed, they increase in value, and, when turned out to be fattened, take to the grass remarkably well. When it is considered, however, that four good horses are equal in exertion to six bullocks,† and that, if the farmer is not a good

* Some prefer breaking them in the fallows in summer, after being three years old.

† Mr. Patrick Murphy, of Navan, some time since employed a number of bullocks in ploughing, yet he has discontinued

good deal of a grazier, and cannot fatten those bullocks when they become too old to work, and supply them, when working, with a good mouthful of grafs, a large share of the profit, arising from their use, is lost to him. It should be observed, however, that, though horses, bought in with judgment, well fed, and gently worked, will pay for their keep, yet they are a more precarious stock, more subject to accident, and more difficult to be disposed of than bullocks. The one may be sold off for the value in any fair; the other may lie on hand, long enough to tire the possessor, because the value of one animal is *real*, that of the other imaginary.

Allowing six bullocks to be only equal in exertion to four horses, their comparative expence may be thus stated, viz,

Horse-

tinued the use of them, chiefly from their slowness; he says, if they are worked hard, their growth is not sufficient to compensate for their want of exertion; and, if not worked hard, they do not pay for their keep: he thinks four good horses equal in exertion to eight bullocks, and that, except in a few cases, the grazier would be better paid by letting them grow to their full size, without working, because they would come in a year sooner, and be larger. Since the introduction of the Scotch, and other light ploughs, the value of bullocks in husbandry is decreased. He now thinks a pair of strong, well-fed horses, in one of these ploughs, will do as much work, and with more satisfaction, than six bullocks; he acknowledges, however, that they are the best kind of animal for summer's gorrrowing, as that kind of work requires strength and steadiness; and at that season of the year good grafs is easily had, without which they will not be able to

Horse-Team.

	£.	s.	d.
By keeping four horses for twenty-six weeks on hay, from the first of November to the first of May, at 3 <i>lb.</i> of hay, per horse, per day, makes 12 ton, at 40 <i>s.</i> per ton, - - -	24	0	0
Ten barrels of oats, per horse, at 11 <i>s.</i> 4½ <i>d.</i> per barrel, - - -	22	15	0
Twenty-six weeks grass, at 2 <i>s.</i> 2 <i>d.</i> per week, - - -	13	4	0
Shoeing, &c. - - -	4	0	0
	<hr/>		
	£.	63	19 0

Bullock-Team.

	£.	s.	d.
By twenty-two weeks feeding on hay, at 60 <i>lb.</i> per day, per bullock, for six bullocks, makes 24½ tons, at 40 <i>s.</i> per ton, from the first of December to the first of May, - - -	49	10	0
By thirty weeks grass, at 2 <i>s.</i> 6 <i>d.</i> per week, for six bullocks, - - -	18	10	0
	<hr/>		
	£.	68	0 0
Deduct amount of horse-team, - - -	63	19	0
	<hr/>		
Balance in favour of horse-team, - - -	£.	4	1 10

beside the convenience of their answering all kinds of work.

Mules

Mules are used by Mr. Morris in ploughing, and, although easily fed, yet he thinks they want weight; and, in soft moory ground, their feet, from being small, sink much more than either horses or bullocks.

They answer extremely well for harrowing, because the land is then generally dry, nor is the dead pull requisite that there is in ploughing; they also answer well in carts or cars, where a large proportion of the load may be left on their back, rendering their step more steady. In short, all *cattle*, used in ploughing, must be adapted to the soil, as well as the *implement* they draw. It would be equally vain to attempt using bullocks in light land, abounding in flints and small stones, as it would be to use mules in soft moor-land.

There are a few observations, that it may not be amiss to mention, requisite in the choice and working of bullocks, viz. to choose those, that are strong, and likely to grow large, as *they* will pay best for their keeping; to choose them with horns not so extended, as to interfere with each other in draught, the more looped the better; to be cautious not to tire them, but, if possible, to keep two sets, and let each work only half a day until they are four years old; to feed them well in summer, and in the winter and spring months to give them some sheaf corn, if cut, so much the better. When they are thus fed in winter, they seldom grow weak in spring. Mr. Morris thinks, that bullocks

ought

ought never to be kept longer for draught than they continue to grow, as they then cease to pay for their keep.

SECT. 4. *Hogs.*

THERE is not any breed of hogs peculiar to this district; those, most commonly met with in the possession of the farmers, were originally of the Berkshire kind; but, from inattention in breeding, they have, in most instances, become long-legged and narrow, requiring a great quantity of food before they are fat, but, when sufficiently fatted, they weigh from two and a half to five cwt.

Gentlemen, who breed hogs for their own consumption, generally choose the Chinese black kind; these are very easily fed, and make the nicest bacon or pork for parlour use; along with which, some of the larger kinds are fatted for the servants.

The late Earl of Beftive introduced a small white kind of hog, which he termed the French hog, but were originally, I believe, the Chinese; they grew immensely fat upon a very small quantity of food, and, except that their want of size, as they seldom exceed two cwt., is an objection against them, there cannot be a more profitable kind bred. The Marquis of Headfort gave two of these pigs to Captain John Moore, of the Bedford militia, whilst quartered in Kells, which
he

he took to England, and exhibited at the late Duke of Bedford's shew, for which, I am informed, he obtained a premium. A good kind of hog is bred in the neighbourhood of Kells, between this French kind, and the old Chinese and Berkshire breeds of the country; those, produced from the crosses, are generally fast feeders, and attain to a good age.

Earl Conyngham has imported two boars, and as many sows, a most excellent breed, from Leicestershire, uniting size and facility of fattening together. He lets out his boar at two guineas a leap, and he sells the young weanling pigs, of his own breed, at twenty guineas the pair.* His sow is the most beautiful animal of the kind, that I ever saw.

When hogs acquire a sharpness in the snout, and a length of jaw, which the best breeds will do in time, they ought to be crossed by a different kind, else they will, in course, become long-legged, and narrow in the back, all which defects in shape are materially against their easily fattening.

Hogs are generally killed at from one to two years old, and sell at from thirty to forty shillings per cwt. Vast numbers of the hogs, fed in this district, are sold to jobbers, who drive them to Dublin and Newry, to be slaughtered for the navy. The price of young pigs, just weaned, is from fourteen shillings and sixpence to
a guinea.

* I am informed he has lately raised the price to twenty-seven guineas the pair.

a guinea. The farmers feed a good many each year, and, until these two years of (I may say) *dearth* of potatoes, there were so few poor persons unpossessed of a pig, that I have heard it asserted, there were more hogs than sheep in Ireland. When potatoes are plenty, store hogs are high, and *vice versa*.

SECT. 5. *Rabbits.*

THERE is only one rabbit-warren in the county, of sufficient extent to entitle it to particular notice in this survey. It extends along the sea-shore, from the mouth of the river Boyne, towards the mouth of the Nanny river, and belongs to Mr. Brabazon, of Morningtown. The rabbits burrow in a heap of sand, blown off the sea-shore by the easterly winds, and feed on a salt-marsh running parallel to it, being prevented from going on the uplands and corn grounds by broad drains, which are constantly full of water; they are taken by pass-nets, placed between them and the burrow, on their hasty return from feeding at night, being alarmed by the barking of dogs, kept for that purpose.

They are all disposed of in Dublin market, the skin being generally more valuable than the flesh; and they are sold by the warreners, at from one shilling and sixpence to two shillings the pair. I have been informed

formed this warren is worth three hundred pounds per annum to Mr. Brabazon, and the ground, so employed, is not valued at one shilling per acre. There are many small burrows in ditches and sand-hills through the county, but not worth mentioning.

SECT. 6. *Bees.*

I HAVE very little to report on this head from the district under survey, as there are very few persons, who are particularly attentive to the preservation of a number of stocks. Mr. Reilly, of Ballybeg, whose nursery I have had occasion to mention before, has kept over thirty-seven stocks, after taking a great number of hives the same season. Honey rates at from ten to eighteen pence per quart, and wax from fourteen to eighteen pence per pound. There is little care bestowed on them, further than to watch them when about to swarm, lest they should fly away; and, when weak in the winter and spring months, which is often the case after a cold or wet summer, to feed them with Jamaica sugar or honey; the former is preferred, as the latter is apt to clog their feet.

Many poor persons make a good profit of a few stocks of bees, particularly those in the neighbourhood of bogs, as there is no better feeding for them than the

blossoms

bloffoms of the heath. Some think, that the best method of preferving bees, during the winter months, is to remove them into a dry vault, where the atmosphere will be always of an equal degree of temperature, because, if left exposed to the sunshine, they will be awakened by every gleam in spring, and tempted to go in search of food, before any flower has put forth; and, at every such effort, they destroy a quantity of food, that would remain in the cell untouched, if the insect continued still.

Bees never require nourishment but when they are awake; the longer, therefore, they can be kept sleeping, the smaller quantity of food will they destroy; and it is a well-known fact, that, the more honey there is remaining in the hive after winter, the sooner will the bees swarm, and the stronger will they be during the whole of the summer. If, on the contrary, they are removed to another aspect, the bitter frost winds kill them, so that a constant, steady degree of temperature is requisite during the winter months, and this can no where be procured, so well as in a dry vault. Bee-hives should never be held over as stocks, longer than one season, or two at most, as the wax decays, and becomes unfit to store the winter's provender.

Wooden stands are always preferable to stone, as the latter are likely to be made so hot in summer by the sun, as to injure the wax, and in winter are generally too cold, and tend to perish the bees. Some few persons,

sons, through a humane desire of preserving the bees, whip them, in the month of July, to a fresh hive, in order to take the honey, but the intention is almost always thwarted, as they generally die, and it is much more humane to smother them; the pain, in this case, is instantaneous, but, when suffered to decline, the pain is of a greater degree, and longer continuance.

CHAP.

CHAP. XIV.

RURAL ECONOMY.

SECT. I. *Labour, Servants, Hours of Labour, &c.*

THERE are three distinct classes of labourers in this country employed in husbandry, exclusive of herds, servants, &c. viz. the cottier, the bound labourer, and the out labourer. The cottier is bound to work for his employer through the whole year, and the employer to find him employment every day he chooses to work; his wages are five-pence per day in the winter half-year, and seven-pence in the summer. In some parts of the country the wages of this kind of labour are six-pence and eight-pence, and in others something more. To proportion the out-goings of the labourer to the scantiness of his wages, he gets a house, and half an acre of potatoe-ground, well dunged, for thirty shillings, and grafs and hay for a cow, for two pounds per annum; he has also the run of a pig and a calf, and, under some masters, that of a

z

lamb

lamb also. This is the usual bargain of the country; in some instances, however, more land is given, and less wages, and *vice versa*, and in others the whole of the wages is given in land, provincially termed *advantages*.

When two men live in one house, they get a double portion of land, and grafs for two cows, &c. in which case the family may live very comfortably. In the barony of Dunboyne, and the more easterly part of Rathoath barony, wages are from one shilling to ten pence per day, through the year, the house, garden, &c. two pounds, and the cow's grafs and hay two pounds; yet with these superior advantages, they are not the least bit richer than labourers living further from Dublin, with little more than half their wages, owing to the female part of the family not being of the smallest assistance; as in this district they never spin, and are brought up in idleness. Under *conscientious honest* masters, the cottiers live as comfortably as those of most other countries; there are, however, I am sorry to say, exceptions, and that too amongst the higher classes of life, whom to serve is the last resource of a labourer, and only resorted to as a temporary expedient, until another place can be procured. Labouring tenants seldom live longer than one year in *such* services.

The bargain of a cottier is very undefined; he treats for a house, potatoe land, grafs and hay; true, he gets
all

all those things, but in what manner? He is often put to live in a house, that is not water-fast; half an acre of wretched ground, that will not produce more than half a crop of potatoes, is allotted to him, and he is allowed a bare common for his cow, on which she merely *exists*, and the hay is of the coarsest bottom land, and unfit for any purpose but to make dung of. With this bargain, the cottier is not upon half as good a footing as the out labourer, and although he enters such service with a cow, a pig, and other articles, he generally suffers in the loss of them the first year, and, if, he continues the second, he is completely beggared. The poor man's wealth and independence are in proportion to the value of his potatoe garden, the failure of which, for one year, is seldom recovered, even under the best masters, in three; then, what must be the situation of those, whose gardens fail the second year, and who are tenants to an unfeeling or an unjust master?

It is very extraordinary, that those persons, who are themselves the worst masters, are generally the loudest declaimers against the poverty and wretchedness of the poor; they argue very feelingly in behalf of poverty, and for amendment, yet stir not a step towards the relief of the grievance; but on the contrary, the most vociferous advocates for the "poor slaves," (as they term the cottiers) are generally the greatest tyrants. *Such are mere words*, where activity in so good and so general a cause might be of infinite utility. I have

asked some of those, whose humanity seems to exist only in their tongue, what they had done towards ameliorating the condition of their own labourers; the usual answer was "that they had not done any thing, that *their* stepping forward was useless, if the practice did not become general." They did not, however, consider, that some person must begin the reformation, and even though no land-holder followed the good example, yet he would be acquitted with his own conscience. A cottier, who receives fairly the full amount of his hire, according to agreement, and who has a careful industrious wife, may support his family, and live in some degree of comfort, and of credit in his sphere; but he, who has the misfortune to be engaged where there is a bad garden, poor grafs for his cow, bad hay, in short, bad every thing, may God help him!—for he requires some gracious interposition of providence, to enable him to keep his family alive.

The bound labourer is obliged to work every day as the cottier, but he has not a house or any other advantage from his employer, except merely what arises from constant work. At the same time, he is obliged to buy every thing he consumes, at the market price; his wages are eight pence per day, for the winter six months, and ten pence for the summer six months, and though certainly worse circumstanced than the cottier, he is much better than the out labourer, who is not bound to any master, but works wherever he can get employment,

employment, and always receives the highest wages. In harvest he may earn from fifteen pence to eighteen pence per day, in spring and summer from ten pence to a shilling, and in winter he seldom gets work, except he can procure a task; he pays the highest price for all he consumes, and has no advantage whatever. These, with some trifling variations, are the general rates of labour.

In the neighbourhood of Drogheda, and in that part of the baronies of Ratoath and Dunboyne, where coal is burned, the labourer often stipulates for a ton of fuel, and, in the neighbourhood of bogs, the turf is sometimes brought home to them. The comparative advantages of the three classes of labourers may be thus stated,

The

*The Cottier's Account**Dr. -*

	<i>£.</i>	<i>s.</i>	<i>d.</i>
House and potatoe land, - - -	1	10	0
Cow's grafs and hay, - - -	2	0	0
Summer's meal, 5 cwt. at 11s. 4½d. per cwt.	2	16	10½
One rood of flax-land, including feed,	2	5	6
Beef at Christmas, &c. - - -	1	2	9
Turf, 20 kishes, at 1s. per kish, - -	1	0	0
One stone of wool, - - -	0	18	0
Soap, candles, and tobacco, - -	1	2	9
Shoes, with repairs for the family, -	0	15	0
	<hr/>		
	13	10	10½

*Contra**Cr.*

	<i>£.</i>	<i>s.</i>	<i>d.</i>
By working 135 days at 5d. per day,	2	16	3
Ditto 135 do. at 7d. per do.	3	18	9
Profit on a calf, - - -	2	0	0
Ditto on a pig, - - -	1	10	0
By 50 lb. butter, at 6d. per lb.	1	5	0
By 30 lb. yarn, after supplying the family with linen, sheets, &c. at 1s. 1d. per lb. - - -	1	12	6

 13 2 6

 To be provided by the wife, - £.0 8 4½
Bound

<i>Bound Labourer's Account</i>					<i>Dr.</i>	<i>£.</i>	<i>s.</i>	<i>d.</i>
Houfe-rent,	-	-	-	-	-	1	10	0
Cow's grafs,	-	-	-	-	-	2	16	10½
Hay,	-	-	-	-	-	1	10	0
Potatoe land,	-	-	-	-	-	3	8	3
Flax land, one rood, including feed, &c.	-	-	-	-	-	2	5	6
Summer's meal, 5 cwt at 11s. 4½d. per cwt.	-	-	-	-	-	2	16	10½
Christmas beef, &c.	-	-	-	-	-	1	2	9
Turf, 20 kishes, at 1s. per kish,	-	-	-	-	-	1	0	0
One ftone of wool,	-	-	-	-	-	0	18	0
Soap, candles, and tobacco,	-	-	-	-	-	1	2	9
Shoes, with repairs, &c.	-	-	-	-	-	0	15	0
						<hr/>		
						19	6	0

<i>Contra.</i>	<i>Cr.</i>	<i>£.</i>	<i>s.</i>	<i>d.</i>
By 135 days at 8d. per day,	-	4	10	0
By 135 do. at 10d. per do.	-	5	12	6
By profit on a pig,	-	1	10	0
By do. on a calf	-	2	0	0
By 30 lb. yarn, after fupplying the family with linen, fheeting, &c. at 1s. 1d. per lb.	-	1	12	6
By 50 lb. butter, at 6d. per lb.	-	1	5	0
		<hr/>		
		16	10	0
<hr/>				
Remains to be provided for by the exertions of the wife,	-	2	16	0

Out

<i>Out Labourer's Account</i>					<i>Dr.</i>		
					<i>£.</i>	<i>s.</i>	<i>d.</i>
House-rent,	-	-	-	-	1	10	0
Potatoe-rent,	-	-	-	-	3	8	3
Flax ground, seed, &c.	-	-	-	-	2	5	6
Summer's meal,	-	-	-	-	2	16	10½
Christmas beef, &c.	-	-	-	-	1	2	9
Turf, 20 kishes, at 1s. per kish,	-	-	-	-	1	0	0
One stone of wool,	-	-	-	-	0	18	0
Soap, candles, and tobacco,	-	-	-	-	1	2	9
Shoes, with repairs,	-	-	-	-	0	15	0
Kitchen for his potatoes, &c.	-	-	-	-	1	10	0
					<hr/>		
					16	9	1½
<i>Contra</i>					<i>Cr</i>		
					<i>£.</i>	<i>s.</i>	<i>d.</i>
By 40 days work in harvest, at							
1s. 3d. per day,	-	-	-	-	2	10	0
By 40 do. setting and digging po-							
tatoes, at 13d. per day,	-	-	-	-	2	3	4
By 50 do. at different employ-							
ments through the year, at 10d.							
per day,	-	-	-	-	2	10	0
By a task in the winter months,	-	-	-	-	1	0	0
By 30 lb. yarn, after supplying the							
family with linen, &c.	-	-	-	-	1	12	6
By profit on a pig,	-	-	-	-	1	10	0
					<hr/>		
					11	5	10
Together with providing kitchen for the fa-							
mily, leaving to be paid by the exertions							
of the wife,					£.5	3	3½

The debtor side of these accounts is very nearly accurate, as information on that head is easily obtained, but the credit side is not quite so correct, the expenditure not being always the same; for in some instances, the labourer is served with diet at the farmer's, who employs him, during the harvest months, and in that case the consumption of meal in his family will be smaller than if he lived at home, neither does he in general expend so much at Christmas as the cottier or bound labourer.

The chief reason of the farmers' cottiers generally appearing so wretched is, that their masters do not perform their contract with them. At the commencement of the term, they receive fine promises, which are often neglected, and the employer *breaks his agreement*, or, what is nearly the same thing, does not act fully up to the extent of it; instances of which are too frequently met with. The tenant's cottage ought to be kept in thorough repair, which is seldom the case. He should get a good garden for his potatoes, and he should get good grafs and hay for his cow. It is upon the promise of these advantages, that the labourer engages to work at reduced prices. If, therefore, these advantages are curtailed, the labourer is as much defrauded, as if his employer had hired him for a shilling a day, and would pay him but ten pence.

I will maintain, that it is a true principle of economy in the farmer, to let the cottier have the benefit of
his

his bargain with strict honesty. If the potatoe ground is not good, the labourer is necessitated to call for money, that is not due to him, and to run in debt, after which there is little to be expected from his exertion or industry; it is a dispiriting idea, that let them work with ever so much diligence, they cannot maintain themselves and family; consequently they become careless how they please, so long as they imagine, that the master will not turn them off until the debt is paid. Necessity too often urges them to unwarrantable practices, which they would not otherwise follow. The best general rule to adopt, therefore, with all labourers and servants is, to make their place *worth their attention*, and be careful to see that they do attend. The great step to this, with respect to a cottier, is to supply him with plenty of food by means of a good garden, and to let his cow, instead of a bare common, have good grass and hay; the superior profit of that cow, when *well fed*, will enable the housewife to clothe her children decently, which is much to be wished for; and the advantage of a good, over a bad potatoe garden, keeps the cottier from going to market for provisions with that money, which ought to be expended in domestic comfort, or in clothing and utensils for himself and family.

In the winter months, the out labourers generally take a task (*i. e.* piece work) of ditching, threshing, raising manure, &c. If they can get such, it benefits them

them materially, and where there is a job likely to continue for any length of time, they undertake it on reasonable terms, so as to be able to earn from eight pence to ten pence per day. In the neighbourhood of bogs, labour is cheaper than in any other part of the county. The poor flock towards them for the convenience of firing; besides, there is more constant employment in their neighbourhood, than in other situations. They often cut turf for sale; the clearing the banks employs them during the winter months; and from May to July they continue to cut and rear the turf, which is then sold to the best bidder: many cut by contract, at so much a *kish*, the employer finding *bank*, i. e. paying the ground-rent for the place the turf is taken from.

There is a great proportion of the farmer's work done by the great, or, as it is here termed, by task, yet not any thing like what might be performed in that way. Our labourers are capable of great exertion, and it is a stimulus to industry, to enable them, through an exertion of their natural powers, to earn nearly by the half more wages, than they would be entitled to if working by the day. The employer too has a much greater proportion of work done for the same money it would cost him, if he paid the men by the day.

There are many kinds of work, in which the labourer might employ his children, and so bring them
up

up to the habits of industrious exertion, and serve to assist in support of the family.

Elias Corbally, Esq. is so thoroughly convinced of the advantage of employing his labourers to work by task, that he gets all his work so done, and there are few gentlemen who understand work better, or who employ more workmen than he. I have been assured by good authority, that he pays from fifteen hundred to two thousand pounds per year to labourers. He thinks he gets very nearly twice as much work done for the same money, as he would, if he employed them by the day.

Average rates of tradesmens' work.

Masons' work is executed at from 1s. to 1s. 6d. per perch, of twenty one feet long, one foot high, and eighteen inches broad, the employer finding all materials and attendance on the spot, without diet. When employed by the day, they receive from 2s. 2d. to 2s. 8½d. Hedge-carpenters receive from 1s. to 1s. 6d. per day, with diet, and from 1s. 6d. to 2s. without it. Blacksmiths' work, their employer's iron, at from sixteen to twenty pence per stone, finding coals, &c. in addition to which, they receive eight pence a set for shoeing horses, and six pence a set for cocking in frosty weather. Stone-cutters and house-carpenters receive from eighteen shillings to a guinea per week.

In

In short, tradesmen are employed either by the piece, or day, for wages proportioned to the demand there may be for them, or their degree of excellence in the art they profess. Thatching is performed at the rate of from 13*d.* to 18*d.* per pair of couples, twelve feet long and four feet asunder, together with attendance. The wages of herdsmen are about eight pounds per year, with a house, garden, potatoe land, and the maintenance of two cows, on the same terms as the cottier. In some places their advantages are increased and the wages diminished, yet it comes to the same thing in the end; they are to preserve their charge of cattle from dog, bog, and thief; they must drive to fair and market, upon which occasions, from one shilling to eighteen pence, per day, is allowed them for their own expences, beside the travelling charges of the cattle.

Overseers' wages are, from ten to twenty pounds per year.

The price of labour may thus be rated:

	<i>s. d.</i>	<i>s. d.</i>
Men's labour per day, of ten hours, according to the season, scarcity of hands, &c. from	- - - 0 8	to 1 3
Women per day, hay-making or binding, from	- - - 0 6	to 1 0
Threshing wheat, per barrel of 20 stone,	1 0	to 1 2
Barley		

			<i>s. d.</i>	<i>s. d.</i>
Barley or bere,	ditto	16 ditto, 0 5	to	0 7
Oats,	ditto	14 ditto, 0 3	to	0 5
Peas,	ditto	20 ditto, 1 0	to	1 2
Making ditches, 6 feet wide and 5 feet				
deep, per perch of 21 feet,	-	-	2 0	to 2 6
Ditto,	5 ditto, 4 ditto,	1 6	to	2 0
Plashing, laying, and scouring,	ditto,	1 0	to	1 2
Reaping wheat, binding, and stooking,				
per acre,	-	-	7 6	to 9 0
Ditto oats,	ditto	-	8 6	to 11 4½
Ditto barley,	ditto	-	8 6	to 11 4½
Mowing old meadow, if the grafs is				
heavy,	-	-	3 0	to 5 5
Ditto first crop of grafs seed,	-	-	2 6	to 3 6
Ditto vetches, for soiling or hay,	-	-	4 0	to 6 6
Under-draining, 18 inches wide and 18				
inches deep, per perch,	-	-	0 1½	to 0 2½
Ditto, 2 feet wide at top, 2 feet deep,				
and 1 foot wide at bottom, per perch				
21 feet,	-	-	0 2	to 0 3½
Ditto, 3 feet at top, and 3 feet deep, do.	0 4	to	0 6	
Ditto, 3 do. 4 ditto, do.	0 6	to	0 8	
Trenching ground, eighteen inches deep, for gar-				
dens, &c. is done at from 1 <i>s.</i> to 1 <i>s.</i> 6 <i>d.</i> per perch				
square, and at two feet deep, from 1 <i>s.</i> 6 <i>d.</i> to 2 <i>s.</i> 2 <i>d.</i>				
per perch. Lime is burned at from 1½ <i>d.</i> to 2½ <i>d.</i> per				
				barrel

barrel of thirty-two gallons, and quarried and burned, where no material obstruction exists in the quarrying, at from 3*d.* to 4*d.* per barrel, the employer finding fire, hammers, and carriage of fuel and stone to the kiln.

Bricks are made and burned at from 8*s.* to 9*s.* 6*d.* per thousand for stocks, and 6*s.* 6*d.* to 7*s.* 6*d.* for place bricks, the fuel and straw being found by the employer on the spot; the bricks are reckoned into the kilns, previous to their being burned.

Ploughing and harrrowing an acre, from 16*s.* to 1*l.* 4*s.*

Farmers' servants, able to work upon occasion, receive per year, with diet and lodging, from 3*l.* 8*s.* 3*d.* to 5*l.* 13*s.* 9*d.*

Plough-drivers, ditto, from 1*l.* 14*s.* 1½*d.* to 3*l.* 8*s.* 3*d.*

Farmers' servant-maids, per annum, from 2*l.* to 3*l.*

Ploughmen are rated as cottiers, with the additional advantage of the grazing of a heifer, or an equivalent. Turf is cut and reared at from 5*d.* to 8*d.* per kish, exclusive of the expence of taking off the bearing, or useless surface, which varies in depth according to circumstances.

Beside the above-mentioned, there are several kinds of work done by the piece, such as turning heaps of manure, weeding corn, picking stones off meadows, &c. &c. and many others, which are capable of being contracted for, if both parties understand the business.

It

It is a general complaint, that a great proportion of the most valuable part of the season for labour is lost, by the cottiers digging and setting their own potatoes.

I do not know a greater advantage, for so much, that could possibly accrue to both the employer and the employed, than that the labourer should be paid almost the whole of his wages in kind; that is, to give him, instead of land, the produce of the land, at such rates as would meet his wages. The labourer, in this case, would never feel the effects of a scarce season, because his provisions would be supplied him at fixed rates, proportioned to the wages, and the employer might raise the provisions much cheaper than the labourer possibly can, and, by this means, he would have it in his power to employ his cottiers as he pleased the whole year; and, for this scheme, the best method would be, to plant potatoes by the plough, as the expence in this way is trifling, in comparison to the usual mode of planting in the lazy-bed way.

Whenever wages are raised, there is an additional tax laid on agriculture; of course, the produce of the earth must come to market at an advanced price. It is not the farmer alone, who is hurt by the high price of labour; all manufactures bear a proportion to the rise; and if that rise is so great, as to put it out of the power of the manufacturer to sell his goods for the same price, or even for less than imported goods of the same kind and value are sold in our markets, the manufac-
ture

ture must fall to the ground, and a great number of the persons employed in it be thrown upon the world for support, in a much worse state, than if they had never been trained to it, being unaccustomed to earn their bread in any other way, than the business to which they were reared.

There is no country, in which manufactures thrive so well, as where labour is cheap. The products of these countries are sure of a sale, because they can be afforded at an under rate, even in foreign markets. It seems, therefore, that society would be much more benefited, by a reduction to the labourer in the price of the food he consumes, than by advancing his wages; and, in the event of paying him in kind, he would add a number of days to his *tally*, which are at present lost both to his employer and himself, in planting and digging out his potatoes.

SECT. 2. *Provisions.*

THE price of provisions for these two last years was so very exorbitant, that we cannot, with accuracy, bring it into a general statement of this kind. The following, however, may be considered as near the average, as, in such a statement, I can possibly bring it to, for the five preceding years.

A A.

Wheat,

	<i>Wheat per barrel of 20 stone.</i>		<i>Flour per cwt.</i>	<i>Oats per barrel of 14 stone.</i>		<i>Oatmeal per cwt.</i>	<i>Barley per barrel of 20 stone.</i>		<i>Bere per barrel of 16 stone.</i>	<i>Potatoes per stone.</i>
	<i>s. d.</i>	<i>s. d.</i>		<i>s. d.</i>	<i>s. d.</i>		<i>s. d.</i>	<i>s. d.</i>	<i>d.</i>	
1795,	26 9	25 6		11 1½	10 10		14 4	13 9		2½
1796,	26 6	25 0		11 1	9 8		24 6	22 6		3
1797,	25 0	20 6		10 11	9 10		12 2	11 6		2¾
1798,	27 9	22 6		9 4	11 0		17 8	15 6		2
1799,	37 7	25 6		12 5	11 6		16 6	14 9		4

The prices of corn, in this county, are regulated by Drogheda market; all kinds of grain selling at Navan, which is the greatest corn market in this county, by the amount of the carriage, lower than they fell in Drogheda; so that it has become a trade with the owners of luggage-boats, plying on the Boyne canal, to buy corn in Navan market, and send it to Drogheda in their boats, which must otherwise ply to Drogheda with ballast. When corn is rising, this is a profitable trade, but, when falling, it is the contrary.

Corn generally advances in price, from the latter end of February, until towards the ensuing harvest.

Immediately after Christmas, butcher's meat becomes dearer, and continues to rise until the grass beef comes in; this is owing to the graziers not being provided with

with a sufficiency of nourishing food; and, but for the quantities fed in the distiller's yard on hog-waste, the prices in the spring of the year would be exorbitant, as was pretty evidently the case in the spring of 1801.

Butter is generally at the highest rate in the spring months, and is cheapest about the month of November. Bacon is highest at the latter end of summer.

SECT. 3. *Fuel.*

THE scarcity of turf-bogs, in this county, renders the article under consideration a heavy expence to individuals situated at any distance from them; for, though there is a sufficient quantity to afford fuel for the consumption of the whole county, if conveniently circumstanced, yet, as they lie, for the most part, in large and extensive tracts, the distance of carriage is, in many instances, so great, that the expence of carriage overbalances the original price of the turf.

In most instances, however, turf may be had, at an expence of from about one to two shillings per kish or box, whose dimensions are four feet long, three feet deep, and two feet wide.

In the towns, where turf is brought for sale, it generally produces from eighteen pence to three shillings per kish, according to the inclemency of the season, the quantity at market, or the goodness of the commodity.

By means of the Boyne canal, the best kinds of sea-coal may be had in Navan, from the port of Drogheda, at within a few shillings per ton of the Dublin price; and as, in the neighbourhood of Navan, turf is rather a scarce article, the use of coal is almost universal. Many burn coal in their parlours and bed-chambers, and turf in the kitchen, through a principle of economy, as servants, bred in this county, are not much acquainted with the management of coal; and, where fire cannot be slackened down, but must be employed for several purposes during the day, a greater waste would arise from burning coal, than by using turf as fuel.

In the baronies of Dunboyne and Ratoath, coal is the principal fuel in use, which is brought home, as I have mentioned before, by the cars, that have carried out hay, straw, &c. to Dublin market.

The hedges in this district, as may be supposed, suffer materially from the depredations of the poor; so much so, that there is hardly a good hedge-fence to be met with in it. Straw is also too often used as fuel, when the coal is consumed, to the great injury of the land, by the loss of so much material of manure.

Coal may be had in Slane, at from twenty to thirty shillings; in Navan at from twenty-five to thirty-five shillings; and in Kells and Trim from thirty to forty shillings per ton; in all other places in proportion to
the

the distance of carriage, the great counterpoise to profit and advantage.

Ovens are generally heated by furze, or soft turf, most commonly by the latter. Coal was some years since raised in the barony of Slane, of a good quality, and in a tolerable quantity, but, the water becoming too powerful, the company desisted. A fresh company was, however, lately established, who have desisted from the search, the veins being found to be so very small, as not to repay the expence incurred by teeming out the immense quantity of water; with which the pit is flooded; and the difficulty arising from cutting an under-drain, being extremely great, rendered the project, unfortunately, abortive.

In most parts of the barony of Duleek, fuel is a heavy article of expence, especially to the poor, and the lower class of farmers, as they are seldom furnished with grates, and to burn coal upon a hearth would be a vain attempt.* They therefore burn turf, at the rate of from 2*s.* 6*d.* to 3*s.* 6*d.* per kish, having frequently to draw it from five to six miles. Mr. Ruffel, of Dollardstown, in this barony (to whom I am indebted for many valuable communications on the several subjects contained in this work), has proposed a charitable loan, interest free, which, if carried into effect,

* Latterly, by placing two bricks endways, and parallel to each other, at about eight or ten inches asunder they contrive to burn coal.

effect, would be of most singular advantage to the poor, for the purpose of buying coal whilst at a cheap rate, and retailing it at some small advance, merely to defray the expence of landing, measuring, &c. on the quay of Slane, which is as nearly as may be a central situation. Thus, in this one instance, may we perceive what has been mentioned in a former part of this work, of what peculiar advantage water-carriage is to the interior of a country, conveying from it the redundancy of its produce, and, in return, supplying it with fuel, from which a power of fertilizing the soil is rendered easy, through the medium of lime. Upwards of 20,000 barrels of corn have been sent by the canal to Drogheda this season, which proves at once the fertility of our county, and the increase of our interior trade.

CHAP.

CHAP. XV.

POLITICAL ECONOMY, AS CONNECTED WITH, OR
AFFECTING AGRICULTURE.SECT. I. *Roads.*

THERE are only two turnpike roads running through the county of Meath, the one leading from Dublin to Drogheda, and the other from Dublin to Navan, both kept remarkably well. The latter is a new line, and promises, through the exertions of the turnpike board, and particularly of Charles Drake Dillon, Esq. to be of great advantage to the county. The other roads are repaired and made by presentment, at the expence of the barony, through which they run, and where a road is the mearing between two baronies, the amount is equally apportioned between them.

Before a presentment to mend a road is granted by the Grand jury, an affidavit must be made by two persons, to say, that they have measured such, that it is out of repair, and that it will require a certain sum per perch, to repair the same effectually. This application must

must be lodged with the clerk of the grand jury, six days previous to the assizes, to be by him registered, to which registry all persons have access, and where they find a road applied for, that does not want repair, they have a power of traversing the presentment. If no such traverse is entered, the parties applying generally get permission to mend it, between which time, and the ensuing assizes, they repair the road, and when accounted for, and audited by the judge and grand jury, they receive the amount.

The overseer has five per cent. upon the money expended.

From the flatness of the county, our roads are easily kept in repair, when compared with those of other countries, where the gravel is frequently washed off, and bridges and gulleys swept away by sudden floods. If the persons, repairing the flat roads, could be induced to leave the centre a little higher than the sides (suppose six inches in fourteen feet) so as that the rain water might flow off, the stagnation on the surface, which is at present the cause of their soft and dirty state, and ultimately of their rotting, would not then exist. Indeed, as long as the custom of scouring the road-ditches, and leaving the stuff taken therefrom on the side of the road, exists among our farmers, little can be expected from the most advantageous shape of the road, as it does not unfrequently happen, that the person, who has been paid for repairing the road, is the first

first to spoil it again in this way, by holding the water on its surface; and though we have, in some baronies, persons appointed as conservators, there is scarcely any difference in the roads of their district, from those where no such officer exists, because there is no responsibility attached to the appointment. Here I must except the barony of Kells, whose conservator, Captain Molloy, is extremely active, and his exertions are crowned with success.

The trade of *road-jobbing* is practised to some extent by many of our little farmers, to whose horses and cars it gives employment for a month in summer, to the very great injury of their fallow grounds, which are always neglected; a preference being given to road-jobbing, rather than working and manuring them.

In the expenditure applied to road-making, as in the carrying on of most public works in this county, abuses of a glaring nature appear every day, which, though seen by every body, yet are the business of nobody; and, although the precautionary steps, taken at the barony meetings, are in some measure a check to such frauds, yet no means, as far as I can see, have hitherto proved effectual towards putting a stop to what deserves no better name than public robbery, and why? There is no person, on whom responsibility is fixed, and the too common recourse to affidavit is the only necessary step towards obtaining money for work, well or ill executed.

Why,

Why, therefore, may there not be an active person appointed, whose whole time and attention should be occupied in making constant perambulations, to observe throughout the county or barony, what roads want repair, what bridges, gulleys, walls, &c. are requisite to be built, and who should afterwards see, that such works are executed in a fair and permanent manner, making it an indispensable step, that *his report* of the *necessity* of the work should be made previous to the presentment having been sought for, and his certificate be absolutely requisite, of the work having been done in a *fair and equitable manner*, before the amount is paid, particularly as the road act empowers the grand jury to appoint such an officer. A map of each barony, on a very large scale, with copious references thereto, should be placed in their room, for the inspection of the grand jury during their sittings, in order that any part of the county may come under the notice of the body at large, as a check to jobbing, and the partial expenditure of public money, under the specious heads of shortening lines by new roads, shutting up old ones, and erecting bridges, gulleys, &c. The tax, for the year ending Lent 1802, amounted to the enormous sum of £.30,220 sterling, upon the county.

Some step is absolutely requisite, as the tax is annually increasing; and though the roads are kept in much better repair than heretofore, yet the expence arising therefrom might be diminished at least a third. The

gripes

gripes of the ditches are, in most instances, next to the road; these, however, are gradually filling up by presentment, by which means the roads are made wider and safer; this, though a heavy expence at first, will in the end prove the best economy; as in situations where they required repair, while *narrow*, every third or fourth year, when once they are effectually repaired and *widened*, they will not require mending again for six years. The grand jury seem so thoroughly convinced of the necessity of wide roads, upon economical principles, that they seldom refuse a presentment for widening. High thorn hedges are of very great disadvantage to roads, preventing the action of the sun and wind on their surface, for the purpose of drying them speedily; many consider hedgerows of timber trees as equally bad, from the effects of their dropping; but, if the thorn quicks were kept down, and closely shorn, hedgerows would do no material injury, as the wind would have free access between them.

In repairing roads, it is the general usage throughout the county, to break up part of the old work lightly, before laying on the gravel or small stones, as thereby the old and new work are incorporated, effectually preventing the water from forming lodgements between them, which occasion the new work to rise, to the injury of the whole. The grand jury of the county have given their sanction to this mode, and its advantages, together with those arising from the practice

tice of raising the middle of the roads somewhat higher than the edges, and leaving passages for the water to run off easily, are manifest. In most new roads a pathway is left on one side for foot passengers; it is raised a little above the level of the road, and, independent of its being useful, it is ornamental also, and serves to give breadth and air to the road.

It has been remarked by persons, who are intimately acquainted with most parts of Europe, that, in whatever other part of view Ireland may be deficient, when either her public or private roads are considered, she certainly excels all other countries, both with respect to the manner of raising the amount of such repairs, and in the subsequent mode of application, against which, if the contractors could be induced to act honestly and conscientiously in the expenditure, there cannot be a well-founded objection.

The rich extensive landholder pays the principal part of the expence, as it is an acreable charge, and though the poor man feels the tax as heavily upon his small farm as, perhaps, the extensive farmer and grazier upon his large tracts, yet he receives employment for himself and horse, in the making and mending of those roads, to a much greater amount than the share of the tax, which falls to his lot, so that upon the whole he is a gainer.

The first object in the improvement of a country should be that of amending the roads, the advantages arising

arising from which can only be conceived by those, who have experienced the miseries attendant on, and the obstacles arising from those out of repair. Good roads greatly assist in the approximation of the market to the door of the farmer, and of market to market; they are an inducement to persons of property to reside in the country, as social intercourse may be more easily preserved; they are the means of enabling the farmer to keep his grounds in a state of fertility, by affording him a safe and commodious carriage for lime, dung, and other manures; and they are a source of economy to him, by preventing a wear and tear of machinery, which must necessarily arise in countries not so fortunate.

SECT. 2. *Canals.*

THE canals of this county, generally speaking, must be looked upon as in their infancy, nor can the district under survey boast of more than two running through it, viz. the Boyne, and a small part of the Royal canal. The former is navigable from Drogheda to Navan, which latter town it has so greatly benefited, that all property, whether in lands or houses, either in the town, or immediately in its neighbourhood, is nearly doubled in value from what it was fifteen or twenty years since.

The

The market for grain is also considerably increased, and is advancing in wealth and extent every season, as, by this means, the farmer or corn-dealer has a cheap conveyance to Drogheda, which is the best corn market in the kingdom. The other canal has not yet extended itself into this county, so as to be of any use to it; for though it is excavated for some extent, yet it is not as yet navigable; but we may promise ourselves, that infinite advantage must hereafter ensue, by opening a line of easy communication between the southern parts of this county, and the market of Dublin, attended with the like beneficial consequences, which evidently arise to those parts of the county, to which the Boyne canal extends its influence, by facilitating the intercourse with the interior and the Drogheda market. In short, a stranger, viewing the map of the county of Meath, and being informed, that an ample supply of water, for a navigation of almost any extent of trade, might be derived from either the rivers Boyne or Blackwater, on which an enlarged trade might be expected; that the towns of Trim, Kells, and Athboy, with the extensive bog contiguous thereto, all situated in a rich and fertile country, whose inhabitants have every wish and ability to forward such undertakings, are situated on a level with respect to each other, commanding, at two points, viz. above Trim, and near Kells, the above-mentioned rivers, from either of which points, to within half a mile of Navan, there would not be a necessity

necessity for even one lock; a stranger, I say, would be so struck with circumstances so plain and convincing, that he would be inclined to exclaim; Why is not Meath—a county abounding in every granulous product the earth can bestow—so highly favoured by divine providence, and so circumstanced as to the nature of its surface—why is it not intersected with canals, affording thereby an easy mode of pouring forth the superabundance of her internal produce to countries not so highly blessed? Or why, if the inhabitants of the country are either unable, or unwilling to forward such a work, is it not undertaken by the Executive power, and, when finished, farmed out for the national advantage? Such, with justice, would be the language of a stranger, unacquainted with the many fruitless attempts heretofore made, for the extension of the inland navigation of the county, owing to individuals, either through interest or address, procuring large sums of money for mere local advantages, which should be expended for the general good, thereby rendering the sum, originally estimated as likely to be sufficient to carry the work to its projected extent, scarcely adequate to perfect more than one-half.

To expatiate upon the advantages of inland navigation in any country, but more particularly in one so highly improved, rich, and fertile, as the county of Meath is, would be to insist upon the utility of an object, to which all must assent, as these advantages are
obvious

obvious to even the most unobserving. Independent of the great purposes answered by the carriage of fuel, for burning lime or for house uses, timber, slates, foreign seeds, spirituous liquors of all kinds, wine, porter, and tobacco, together with all species of imported goods, as a returning trade, arising from that required for conveying corn and other internal productions to the sea-port; we must view them as objects of vast national importance, and perceive, that the kingdom at large would derive many advantages from so extensive a system, in the carriage of goods between the metropolis and different parts of the kingdom in return. When we likewise consider, that land-carriage requires an incredible number of horses, and that each of these horses consumes as much corn, independent of other kinds of food, as would annually maintain three labouring men; and that one or two horses, by means of water-carriage, are equal to transport as much goods, as can possibly be effected by sixty horses on cars, and in a much more secure and safe manner, it becomes a fair inference, that the public would thus annually gain provision for sixty of the labouring poor, for every boat, properly established on an inland canal, saving, at the same time, the heavy expence necessarily incurred by the damage done to the high-roads, from the passing and repassing of sixty cars, required in so much trade throughout the county.

There

There cannot be a stronger illustration of the advantages, arising from a navigation running through a country, than the flourishing state of trade in the town of Navan, with respect to its population, and the increase of its buildings.

One circumstance, which came immediately under my own knowledge, will serve to exemplify the rapid rise on the value of land. A part of the banks of the canal at Navan, the estate of Skeffington Thompson, Esq. had been broken up by quarrying stones, and in winter the river Boyne continually flooded it formerly. This lot of waste ground he let to Mr. Codd of Navan, who built thereon two houses, and let sites for nine more. The ground for a twelfth was lately let for five pounds per annum more, than he paid for the whole holding.

As canals extend into the country, their advantages multiply in an increased ratio; and, where the town of Navan would be benefited in one pound by the local advantage of water-carriage to a sea-port, Trim or Kells would benefit in five; for the greater the distance, the greater object water-carriage becomes. For instance, no man would load a boat for five miles, but for fifty miles the advantage would be immense, as the same expence in loading and unloading is required for one as the other; and except at points, situated at a great distance from the line of canal, the general interior of a country must derive uncommon advantage;

a b

and

and those parts still more contiguous likewise, holding respectively, as I before mentioned, a certain ratio with the distance, and increasing proportionally thereto, under a particular limitation, which may be calculated from the annexed figure; in which A, represents the point, where the canal empties itself into the sea, and B, the canal, at the distance of forty miles from it; C, the supposed line, to which the influence of the canal extends, which influence encreases, as the canal proceeds into the country; and when it arrives at the point D, the line of influence is only thirteen miles of land-carriage for loading, but to the sea it would be upwards of forty-two miles; and, as the carriage of goods by water is, to be regulated at one penny per ton per mile, there would be a saving of about two pounds sixteen shillings per ton, on all goods carried by water; the usual rate of land-carriage being about nine-pence per cwt. for every ten miles.

Several schemes have been formed for the extension of a line of canal from Navan, which seems naturally to be the point, whence all canals, proceeding inland, should branch, and through which the productions of the distant and different parts, to which the line extended, should be forwarded to the towns more internally situated in the county.

The branch to Trim was included in the original Boyne scheme, and a great proportion of the work is now excavated. Those, to Athboy and Kells, have
not

not as yet been subscribed for, though the inhabitants of the town of Kells are ready to offer a sum sufficient to carry on the work as far as that town; yet, from some fatality, ever attendant on works of this kind in Ireland, the proposition and scheme have for the present been neglected.

The military avocations, which have occupied the time and attention of the Marquis of Headfort for some years back, have occasioned in him an inattention to public works through the county, which would otherwise be unpardonable in a nobleman of his Lordship's penetration and knowledge of business. The benefits, that would necessarily arise to the town of Kells, are evident by the rise upon property, which consequently must take place, both in the town, and the adjacent lands; so that, to consider this line with respect to *that town* alone, independent of any advantage, that might hereafter arise from it, to the Boyne company, or to the other companies, if they should extend their works farther, its benefits would be almost incalculable.

Fuel is generally a very heavy article of expence at Kells, but this would be done away in a great measure by the facility of procuring sea-coal, and the carriage of turf from the great bog of Onchin's-town, to which five hundred pounds would make a side-branch up the river of Ballybeg, the water of which would greatly assist the canal, did it require it, in the summer months.

For the completion of the work from Navan to Kells, it is estimated, that ten thousand pounds would be an ample allowance, of which not more than six thousand five hundred would be required to be raised by subscription, as the grants from Government generally amount to a third of all sums thus expended.

But why should the sum be mentioned as any bar to its procedure, when the inhabitants and the immediately surrounding gentlemen have offered a sufficient sum for its completion, provided an act of parliament was procured? to obtain which, without the concurrence and sanction of the Marquis of Headfort, would be a vain attempt. When the work would be finished to Kells, it must soon extend to Lough Ramor, and thus be of infinite advantage to the inhabitants of the county of Cavan, in the mere article of limestone, which they now carry on cars not less than twelve miles. On how much more reasonable terms would they have it, if once a mode by water-carriage was established? *They have the fuel, but want the stone, of which we have an abundance, yet want the fuel.*

Together with those already mentioned, there have been levels taken of a northern line of canal, and the undertaking very favourably received; this line is intended to extend from Dublin to the North of Ireland, running through Navan and Kells; the projected line, running from Navan to Kells, being to serve as part of it. For a particular account of the advantages, both
local

local and general, likely to be derived from it, I must refer my readers to the printed report of Doctor Gibney, Mr. John Fay, and Mr. Matthew Codd, on the subject: they are so evident, that I am astonished the work is not already in great forwardness, more particularly, as an extent of twenty miles might be excavated, and made navigable, without the necessity of even one lock. This level is most favourably circumstanced, as it begins at Finglafs, and terminates at Alexanderead; the former being three miles from Dublin, the latter place about an English mile from the town of Navan, and a complete command of an ample supply of water, from the river of Kilmeffin, or from the Boyne above Trim, should the trade become so considerable as to demand so great a supply. Thus, a trade by water might, in the course of a few years, say two or three, be established between the capital and those northern districts, in which a spirit of trade and agricultural industry is so remarkable; and, while the profits, derived from such a source, could be applied towards perfecting the locks at Finglafs and Alexanderead, a like conduct might be pursued between Navan and Kells, in which level there is an extent of eight miles, not requiring a lock; so that a regularly established land-carriage might facilitate this grand project, until the whole plan, and locks required, were perfected on the line.

This

This object is of so much magnitude to the North of Ireland, and to the city, from which it is to extend, that nothing but the most stupid apathy, in the gentlemen of monied interest throughout the district, can account for a delay, not only arguing a want of public spirit, but of an interest in assisting that community, to which those, who enjoy wealth and affluence, are so much indebted. Together with the report of Mr. Daniel Monks, engineer to the Boyne navigation, and now employed by Government, upon the subject, I shall state a calculation, made by the committee, of the numbers of persons, travelling in carriages, or on horseback, passing through the Castleknock gate from one year, taken from the turnpike returns, of whom it is reasonable to conclude, that a large proportion would go in the passage-boats, if once properly established, and with that I shall conclude this section of the Survey.

To the Committee, appointed to report on the practicability and advantages of a still-water navigation, to extend from the city of Dublin through the northern counties of Ireland.

GENTLEMEN,

I AM now prepared, and beg leave to lay before you my plans and estimates of that part of the intended navigation of the northern line, between Dublin and the town of Kells in the county of Meath, together

gether with those of the off-branches to Trim, Athboy, and to the Grand canal at Edenderry; the whole comprizing a length of sixty-four miles, nearly on a level, for boats of twenty-five tons burthen.

The maps, I herewith enclose, will point out the country I have chosen, and which I will more particularly describe, when it is in my power to submit to your further consideration the entire of my plan of the northern line to Lough Erne and Lough Neagh. I have nothing more to add, in explanation of the plans, than what arose from your queries; but I hope it may not be unacceptable to offer some further remarks on the state of the waters, and to point out more distinctly, where they are to be had for supplying of the different lines.

I need not remind you, as I presume it is full in your recollection, that the summit-level, now executing between Navan and Trim, was ordered to be laid out in such manner, as would best tend, in future, to create the most easy communication with the city of Dublin, by a northern line, which has been done. This summit-level commences within a mile and a quarter of Navan, continues to Trim, from thence to Trimlestown river, and to the level of the river Boyne, which may be taken in south of the lands of Clown, on the Edenderry line. The same level is intended to be carried from where it commences near Navan, as part of the northern line, to the town of Kells, and to the level

level of the river Blackwater, a mile farther north, near to Clevin's-bridge. Here is one continued level from one great river to the other, whose abundant supplies are not, nor cannot be equalled in Ireland. These were the waters originally intended by me, to supply the proposed northern line to the city of Dublin, by conducting them on a low aqueduct, across the river Boyne above Trim, and thence near to Killmessan, and to the great level, between Dublin and Navan, which is also intended to be on the same level.

A constant residence in Meath for upwards of ten years, together with frequent observations on the state of the rivers, and springs, between Dublin and the river Boyne, during the driest seasons, perhaps, known to the present people, afforded me opportunities, previous to the surveys and levels I have taken by order of the company, which I suppose no engineer ever had it in his power to make in the same direction; and the many favourable circumstances, arising from the proposed scheme, stimulated still further that exertion, which I hope, through the support of the gentlemen of this country, will ultimately tend towards the completion of the whole project, and which, I am convinced, can be executed at considerably less expence than I at first imagined, from what I shall here explain.

The river of Killmessan has many sources, (on most of them are mills) and, when collected near Killmessan, the whole are considerable, having flowed abundantly during

during the remarkable drought of last year. By conducting this river, which is an ample supply in itself, from the mill of Killmessan, through the lands of Castletown Tara, to Garlacross, where may be added the small stream of Lismullin, they may be carried to Gerrardstown, where they enter the grand summit-level. In this neighbourhood is the source of the Nanny-water, which I will not bring into account, and I will also pass over others, that could afford some small support in dry summers, such as the streams of Watertown and Renaghan.

At Macetown, is a constant running river, which can, at very little expence, be turned into the level at the Mill-pond; the sources of this river are constantly flowing, and although it appears small, it stands nearly equal through the year, but it decreased from its usual summer standard, at the close of the last dry season. Proceeding towards Kilbrew, we meet the Radfith river, which seldom failed of a strong run of water until the last summer; this also may be brought in at very little expence.

Passing Kilbrew, we arrive at the Cookstown river, after it descends from the mill of Ratoath; it is increased by other springs, before it reaches the line of canal, and can readily be turned into the level. The next stream is at Baltrafaa, and, although but small, I observed it to flow briskly, and with nearly as much water as the Cookstown river. There are other small
streams

streams between this and Chapel-midway, which will be of use.

Chapel-midway river, I found, did not decrease so much as the Cookstown, and may be considered a useful supply. The next and last I shall trouble you with mentioning is, a large stream that falls to the mill of St. Margaret's, and I shall generally observe on the whole, that I have never seen so many in so great a length of country, that may be so easily drawn in as supplies, and so readily passed over with a canal; and when they are collected into one level, an extent of twenty-one miles and a half, they are sufficient to support a most extensive trade at all seasons. If a trade should take place to exceed our present opinion, this great level might be made to act as a grand reservoir, by increasing the height of the water above the common navigable level; and further, if a trade should be to surpass our utmost wishes, there is still the same opportunity and recourse to the rivers Boyne and Blackwater, as the profits of a trade, demanding so great an addition of water, must very far counterbalance the comparatively trifling expence, of extending the supply cut from the mill of Killmeston to Trim, a distance of somewhat more than six miles, in a level country, where an inexhaustible supply may be received by an aqueduct from the great north level, as before mentioned,

As

An intercourse may be had with the south and west of Ireland, through the Grand canal, by the Edenderry line, that canal affording ample water to lock up and down at Edenderry; the Athboy line, being on a level with Trim and Kells, therefore has the advantage of the same supplies,

I have the honour to be,

with great respect,

gentlemen,

your most obedient humble servant,

DANIEL MONKS, Engineer,

Navan, Jan. 26, 1801.

Calculation

*Calculation of the number of persons travelling in carriages,
&c. likely to go in the boat, if once established.*

2000 carriages, carrying two persons each,	4000
Persons on horseback, - - - -	8000
	<hr/>
	12,000
From Dublin to Kells, in the state cabin, for	£.
12,000 persons, at 6s. per - - -	3,600
In the second cabin, the same number of persons, who now travel on foot, but, from the moderate expence of a boat, will prefer it, at half the above rate, - - - -	1,800
12,000 cars, carrying half a ton each, make 6,000 tons, at one penny per ton, per mile, to Kells, thirty-four miles, 2s. 10d. per ton,	850
	<hr/>
	6,250
It is certain, that an equal number of carriages, horsemen, and cars, from nearly the same line of country, go by other roads to Dublin,	6,250
	<hr/>
	12,500
Deduct for expences,	
Four passage-boats, at £.1000 per annum each, - - - -	£4,000
Officers salary, - - - -	1,000
Repairs on the canal, - - - -	1,000
	<hr/>
	6,000
	<hr/>
Balance, - - - -	6,500
	<hr/>
	Which

Which is $10\frac{1}{2}$ per cent., for £.60,000, the full amount of the necessary subscription.

It is fair to conclude, that local trade, created on the line, must be fully equal to one quarter of the above, thereby leaving full £.12 12s. 6d. per cent. to the subscribers, and must, from the inference to be drawn from the former arguments and the figure demonstrative thereof, increase in a certain ratio, perhaps not limited until it extended itself to the utmost verge of this island.

SECT. 3. *Fairs and weekly markets.*

THERE are very few inland counties in Ireland better circumstanced, as to fairs and markets, than Meath, both with respect to their number, the periods at which they are held, and their disposition through the county.

Some are held on moveable festivals, and others on particular days of the month; when it happens, that one of these moveable festivals interferes with the stated day for holding another fair in the neighbourhood, the stated fair is postponed for a day or two, and whenever the fixed day falls on Sunday, the fair is invariably held on the following Monday.

A general

A general list of all the fairs in Ireland is published every year in the almanack; but as some of them are obsolete, although a patent still exists for their being held, I have marked them with an asterisk.

Atkboy has four fairs; on the 4th of May for store cattle; the 4th of August for early beef, wool, yearling calves, &c.; and the 8th of November for fat cattle, store bullocks, hogs, and sheep. The fourth fair is held early in spring, by general consent, and is advertised by handbills.

Ardcath has three fairs, but there is very little business done there; they are held on the 7th of May, 24th June, and 27th October.

Armaghbreaga has four; the 19th of May, and 19th July for store cattle; 24th of October, and 7th December for fat cattle; the last is a good deal frequented by northern buyers. The 19th July is also a wool fair, and is increasing annually in that respect.

Beftive-bridge-end has two; on the 16th of May for dry cows and large springers, for the Dublin dairy-men; and on the 1st of November, principally for hogs.

**Bramhall*, 1st of June, and 1st December.

**Bellgree*, 4th June.

Ballybogan, 25th of September.

Carlanstown has four; 12th of March, and 1st of May, for store bullocks, dry cows, ewes, lambs, and yearling calves; 6th of August and 19th of November

November for fat cattle, particularly the latter, which is considered the largest and best fair for beef in the county.

Crossakiel has four; 9th of May, and 16th of August, for dry cows, store cattle, and springers; 2nd of November, and 15th December, for fat cattle, hogs, &c.

**Castle-cor*, 12th of May.

**Culmullen*, 22nd November.

**Drumbride*, 12th February.

Duleek has three, 25th March, 3rd of May, 24th June.

**Dunshagblin*, 11th June, 10th December.

Dunboyne, on the 9th of July, principally for horses.

**Garretstown*, 26th of August.

Kells has four; 12th of February, and the eve of Ascension day, for dry cows and store cattle; the 9th of September, for store sheep, wool, and beef; and 16th of October, for rams, ewes, store sheep, and beef.

**Kildalky*, 27th February, 27th March.

**Kilmainham-wood*, 14th April, 5th May, 16th June, 30th October.

Longwood has four; 1st February, 26th May, 12th July, 11th December.

Mulphedder has two; 23rd May, 13th November.

Navan has four; on Easter and Trinity Mondays, for store cattle, hogs, sheep, and horses; the first Monday in September, and first Monday in December,

ber, old stile, for beef, store bullocks, sheep, horses, and hogs.

Nobber has four; the 26th April, 25th May, 20th June, 15th August.

Oldcastle has seven, of which two are obsolete; 11th of January, 26th April, 9th June, 20th August, 20th September, 28th October, 14th December.

**Oristown*, 13th May, 11th October.

Rathmolion has three; the 18th April, 1st June, 20th November.

Slane has four; the 2nd April, 2nd June, 2nd September, 8th November.

Summerhill has four; the 30th April, and 9th May, for cows; 22nd September, for sheep; and 25th November, for fat cattle.

Streen has two; 20th June, for dry cows and pet lambs; 10th October, for sheep and rams, and cast work-horses.

Trim has five; the 27th March, 8th May, 3rd June, for dry cows; 1st October, which is the best fair in the county for sheep; 16th November, for beef.

**Warrenstown*, 1st January, 26th April, 21st June, and 2d September.

In consequence of a regulation lately adopted, the yarn fair is held in each town on the market day, immediately

mediately previous to the fair. There are also weekly markets in the following towns, viz :—

Athboy, on Thursday, in which there is a good deal of corn sold of late years, some yarn, and merchandize for the peasantry.

Dunbaghlin, on Thursday, where very little business is done, but it seems increasing.

Kells, on Saturday; there is a good deal of corn sold there, principally for malting, much yarn, coarse linen, and country merchandize, hogs, hides, &c.; and in the summer months, a few dry cows and springers are exposed for sale.

Navan, on Wednesday, which is by far the best market in the county, both for the quantity and quality of the corn sold there. This, as may be easily imagined, must be attributable to the Boyne canal being finished so far, which furnishes an easy communication with the great corn port of Drogheda. It is also a good market for store and fat cows, particularly from the first of September to Christmas, during which time about one hundred head are sold at each market, on an average, exclusive of those turned out unford; and in the spring and summer months, springers and dry cows are exposed for sale. It is also supplied with vast numbers of bacon hogs and porkers, butter, in large quantities, some coarse linen, yarn, frizes, and

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country

country merchandize in great abundance, and it is becoming the corn depot of Meath.

Nobber. This market is seldom held, although situated in the midst of a fine barley country; but as it is the buyer makes the market, and, as there are no extensive malsters nor millers near Nobber, the farmers commonly send their corn to Drogheda.

Oldcastle. This market is held on Monday, and is by far the greatest in the county, for yarn, particularly of the finer kind; there is but little other business done at it, although, since the erection of the Ballinaganny mills by Mr. Henry, he informed me, that wheat is more frequently sown in that part of the country than formerly. It is a plentiful meal-market, and well supplied with potatoes, &c.

Slane. There is a very inconsiderable market held here on Thursday, which arises from its contiguity to Drogheda, Navan, and Kells, notwithstanding the laudable exertions of Lord Conyngham, whose endeavours for the public good are unceasing.

Trim market is held on Saturday. There is a good deal of corn sold in it, and the millers and malsters of Navan generally buy there. The trade of the town is, however, very circumscribed, but it is likely to increase rapidly, when the canal reaches it.

SECT. 4. *Commerce.*

As there are no sea-ports in the small part of this county, which is bounded by the sea, most of its commerce is carried on through the medium of the port of Drogheda. It principally consists in the export of corn, flour, and spirituous liquors ; live cattle, salt pork, and beef for victualling the navy, butter, raw hides, tallow, coarse linens, and some other articles ; in exchange for which, it imports groceries of all kinds, porter, culm, coals, deals, iron, slates, ridge-tiles, hemp, pitch, tar, ashes for bleachers and soap-boilers, hardware of all kinds, clover and flax-seeds, oak-bark for tanners, together with many other articles too numerous to mention ; and, by means of the canal, most of the heavy goods, consumed in the county, are brought to Navan ; indeed, I may say, the chief part of what is imported in Drogheda, is for the consumption or trade of this county. The groceries of some of the retail shops, of the different country towns lying westward, are supplied from Dublin by land-carriage ; this practice will, however, be greatly diminished, when the projected line of canal, to Trim, Kells, and Athboy, is completed ; the difference, between land and water carriage, must then become an object of more serious

consideration, than it seems to be at present, as has been shewn.

The commercial interests of this county have been materially benefited by the discontinuance of the bounty on land-carriage of corn to Dublin. The regulation was wisely adopted for the supply of the metropolis, but the necessity for its continuance long since ceased to exist, by the extension of the coasting trade, and the inland navigation of the Grand and Royal canals, which are now completed to a considerable distance from Dublin, and are every day extending their course. What a pity they run so closely parallel to each other, for such a distance from the metropolis as they do!

During the continuance of this bounty, the farmers, in the most distant counties of Ireland, were placed on a better footing than those within a few miles of Dublin, and they could greatly undersell them even in their own market; because, in the first instance, their rents were considerably lower than those paid in this county; and, in the next, the bounty, by increasing in amount, as the distance increased, after a certain number of miles, equalled the value of the carriage in most, and, in many instances, far exceeded it. It did not, therefore, unfrequently happen, that millers and corn-dealers, within very few miles of a sea-port town, in the counties of Cork and Waterford, sent flour and wheat to Dublin by land, and were enabled to undersell

fell the miller, situated on the Boyne, in the Dublin market.

If this bounty had been given for carriage to the next sea-port or canal, leading to the capital, the balance of trade would not have been so much against this county as it was, and, consequently, a much larger proportion of it would have been occupied in tillage, than was the case during the continuance of the bounty, as is evident from the great proportion of it, that has been broken up, and the number of flour-mills, that have been erected, almost immediately upon the repeal of the law, which established those bounties; although in the midst of a war, and when the demand for beef was greater, and the prices higher, than at any former period. If this bounty be not again revived, and the forwarding the Boyne canal be prosecuted with vigour, there is no doubt of this county becoming one of the greatest corn counties in the kingdom; and when a proper rotation, with the intervention of green or fallow crops, is perfectly understood and practised, the quantity of beef, fed in this county, will not be as much diminished as might be imagined,

SECT.

SECT. 5. *Manufactures.*

THE chief manufacture of Meath is that of facking; the tow, or raw material, of which it is composed, is brought into it by persons from the North of Ireland; and though it often happens, that they have but one farthing per pound for the carriage, yet they make considerably by the trade. This tow is bought in small quantities by the poor, who spin it, and the yarn, produced thus, is sold to the weavers, at a profit of three halfpence per pound; a good spinner being able to spin from three to four pounds in a day, but two pounds is the average quantity.

This manufacture is chiefly carried on about Navan, in which town there are from two to three hundred looms employed in weaving it, each loom making about forty pieces, of sixty yards each, in the year. The pieces are generally sold in Dublin, at from 10*d.* to 14*d.* per yard. Dowlas, and three-quarters wide coarse linens, are also manufactured for exportation, principally in the baronies of Slane and Duleek, and sold in Drogheda, whence they are shipped to the West Indies, to clothe the Negroes. Linen, of somewhat a finer texture, is made in the lower barony of Kells, and in Demifore, and sold in the market of Oldcastle, which

which is, however, a much better market for yarn than for linen; and some few weavers, who make linen near Nobber and Kilmainhamwood, find a ready sale in the market of King's-court, in the county of Cavan; a large proportion of the coarse linens of the county is sold in Drogheda. In the baronies of Dunboyna and Ratoath there is hardly any such thing as spinning to be met with; the female part of the family is, of course, bred up in total idleness, or, what is worse, in breaking and destroying the fences, to supply firing. Some coarse frizes are made here also, but they are only for home consumption. Whiskey, if it may be called a manufacture, is distilled in large quantities at Navan; Mr. Murphy alone pays from 1000 to 1,300*l.* per month duty, for his malt-house and distillery; his malt-house, constructed on the best plan, is erected on the verge of the Boyne river, which is navigable under its walls, by which means he conveys all his corn by water-carriage from Drogheda, and his malt to his mill by the same communication.

Mr. McDonnell has a manufactory near Navan, for the coarser kinds of paper, which succeeded very well; of late he manufactures writing-paper. Mr. Coxon, an English gentleman, is now erecting a cotton-mill on the Boyne, below Navan, on a site belonging to the Boyne canal, very favourable to its extension, which, if it succeeds, will give employment to some hundreds of poor children, at present brought up in habits of idleness,

for

for want of some such employment, failed to their age and strength.

There is, upon the Nanny-water, one very extensive bleach-green, belonging to George Armstrong, Esq. with a beetling-mill, and other machinery, requisite for carrying on the business. In the town and neighbourhood of Dunboyne, the straw-hat manufacture is carried on to very great extent, and the work, both of split and whole straw, is thought to equal, if not surpass, that made at Dunstable. It is brought to this great perfection, through the exertions of Miss Hamilton, of Hamwood; and at Galtrim, in Dece barony, from the care and attention of Mrs. Dawson and Mrs. Finlay, it has been brought to still greater perfection. In this last place the plat is sold, as the fashions, for the form of bonnets, hats, &c. change so frequently, that it is considered the best plan, not to put the plat into shape. Coarser kinds of straw-work, such as bonnets, &c. are made in many parts of the county, but not any to equal those made at Dunboyne or Galtrim. The manufacture of flat and pan-tiles, garden-pots, crocks, pans, and all kinds of coarse pottery, is carried on at Knock, in Morgallion barony, which is very conveniently situated with respect to turf, the only fuel used, as before mentioned.

Close to the bog of Garristown, in Duleek barony, there are a great number of nailers, who dispose of their manufacture in the retail shops of Drogheda, &c.

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Tan-yards are to be found in almost every town in the county, but little or no improvement has taken place in this very important business. The price of raw hides is generally from four-pence to six-pence per pound. There are two steel-mills for grinding the bark, by the assistance of which three times the quantity is ground, with one horse, as in the stone-mill. Thus it appears, that the county of Meath is amongst the most opulent, and, though far from being destitute of manufactures, yet cannot with propriety be accounted a manufacturing county, verifying the observation, *that no country can excel, both in agriculture, and in manufactures.*

SECT. 6. *Poor.*

THERE is no legal provision for the poor of this kingdom, nor is there any other termination to a life, spent in labour, but begging, except the labourer, so superannuated, has a son or daughter able to afford a scanty support, in which case he lives with them; although it often happens, that the son or daughter, from having a large family, are scarcely capable of maintaining themselves; but, indeed, the inhabitants are so charitably disposed, that begging seems a more profitable occupation than working, and is, of course, followed by numbers, who are idly inclined, though, perhaps, better able to work than many, who support
large

large families by their daily labour. It generally happens, that those itinerant beggars, who are able to work, belong to some distant parish, not wishing to ask for alms where they are known, either through shame of their poverty, as is their general excuse, or through fear of their imposition being detected; but the *real object* of charity lives, and is assisted, where he is known.

Whatever be the real and general cause of itinerant beggary, the establishment of a public work-house, in certain divisions of the county, would not only put a stop to it for the present, but, by preventing children from being trained up in this practice, and, through the habits of idleness, adopting a mode of living, which they see their parents follow with success, the future practice might, in a great measure, be either checked, or totally put a stop to.

Many sensible men are very much averse to the adoption of poor rates, but I should imagine it is more from a dread of the tax, than from any well-grounded objection to the principle. They argue, that, since the poor have been supported for ages, and have been brought through the two last uncommonly hard seasons, by the voluntary contributions of the parishioners, it appears reasonable to expect succour from the same mode of relief at a future period. Added to those objections, we must not pass unobserved, how very heavy burthen a tax of this nature is in England, where

where abuses have crept in, of such a nature, as to render many, with justice, discontented and clamorous against the establishment. But it is to be considered, that the burthen, in case of voluntary subscription, falls chiefly and heavily upon the most charitably inclined; and that a very large proportion of the *wealthy members* of society, who have no *bowels of compassion*, and who, without compulsion, seldom contribute to the necessities of others, are totally exempted from the weight. Upon the whole it is the general opinion, that the establishment of divisional work-houses would be of the greatest advantage to the community; a large proportion of the expence, necessary towards their support, if not the whole, would be defrayed by enclosing and letting the commons of the county, and forming a fund with the amount, for carrying into effect this greatly to be desired end.

The establishment of friendly societies would be one of the greatest means of instilling into the minds of the labouring classes a spirit of independence, and prevent their seeking relief, until absolute necessity compelled them to it. Of these societies, I have heard of only one within the county, which is at Kells. There the tradesmen have formed rules and regulations, which they keep a secret; but the general object is to help all members, when either sick, or out of employment, with a certain allowance weekly, from a stock purse, formed by a monthly subscription from those, who are employed.

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In a former part of this work I have stated, that the principal part of the wretched appearance, made by the peasantry of this county, is attributable to themselves, and I am fully satisfied of the truth of the assertion. In most instances, an unaccountable want of cleanliness and exertion prevails amongst them; a *morning visit* often lasts half a day; and a wake, a funeral, or a christening, has charms to withhold the female sex from their domestic concerns for a whole day, perhaps for two or three, without considering, that, though they do not earn very great wages at their wheel, yet every little is an assistance; and a penny a day, added to their earnings by additional exertion, would amount to a sum, at the end of the year, equal to that usually expended on the clothing of the wife, and small children, of the generality of the labouring poor. All this is extremely difficult to be accounted for, except by taking into consideration an observation, frequently made on the national character of the Irish, namely, that their disposition is so chearful, and their love of hilarity so great, that, even from the lowest rank to the highest, instances are frequent, where, under the pressure of difficulties and depressing circumstances, they, with levity and seeming indifference, dispel the gloom of the instant, and enjoy the passing festivity with delight and animation.

SECT.

SECT. 7. *Population.*

ALTHOUGH I have bestowed more attention and pains, to procure a knowledge of the circumstances under this head of the Report, than on any other, yet I must with regret say, that my endeavours have not been crowned with success. However, at the publication of the second edition of this work by the Dublin Society, I flatter myself I shall be able to procure tolerably accurate information on the subject, as the hearth-money collectors have received orders to report upon the population in their next return.

The Rev. Doctor Beaufort, in his Memoir of a Map of Ireland, states the population at about 112,468, which gives 43.88 houses to a square mile, and allows 14.6 acres to a house.

CHAP.

CHAP. XVI.

OBSTACLES TO IMPROVEMENT, INCLUDING GENERAL
OBSERVATIONS ON AGRICULTURAL LEGIS-
LATION AND POLICE.

AMONGST the many obstacles to improvement, which this country labours under, the following stand most prominent.

1st. The want of capital, which exists amongst the generality of our farmers, who hold less than a hundred acres. Farms, in the occupation of such, are seldom improved, but, on the contrary, too commonly exhausted by a quick succession of impoverishing crops, without recourse to manure, or fallow, or even a green crop. Poor farmers are apt to take more land than they are able to manage, and many are forced to reduce the little capital they are possessed of, by paying a fine of one guinea, or more, per acre, when they commence, which some gentlemen require by way of securing

caring good tenants, but which often prevents their ever becoming such.

2nd. The non-residence of the proprietors of estates, and the vast sums drained from this county annually. The whole of the management of absentee property is committed to agents, most of whom reside at a distance, and see the property as seldom as the landlords, for whom they act, and who mind little else than how they may best get in the rent. If a farm is to be let, it is generally advertised, and the highest bidder declared the tenant, without preference to the one in possession, or to the improving more than the exhausting tenant.

3rdly. The want of good farm-houses, with convenient offices, and corn-stands, the property of the landlord. If the tenant, at the commencement, is under the necessity of building, there is little to be expected from his improvement in other branches, for some time.

4thly. The very extensive farms, every where to be met with in this district, in the possession of one person, and those too situated in different places, and some at a great distance from the occupier's place of residence. These, indeed, are chiefly employed in grazing.

5thly. The inordinate use of spirituous liquors, which, not to mention the money wasted in their purchase,

chafe, deprives those, who are prone to this dreadful vice, of health and reason, and fits them for the commission of acts, that they would blush to think of in their sober senses.

6thly. The want of a parish registry, or some other mode of preventing itinerant beggary.

CHAP.

CHAP. XVII.

ISCELLANEOUS OBSERVATIONS.

SECT. I. *Agricultural Societies.*

A FARMING society was instituted a few years ago at Drogheda, but, as the objects of its premiums and encouragement are limited to a circuit of seven miles round Drogheda, though a part of Meath is comprehended in this extent, it does not fall so properly under our notice, as the Farming society of Navan, and I shall therefore leave it for the more able reporter of the county of Louth, to which district it more properly belongs. The Navan Farming society is yet in its infancy, but such a general spirit of improvement has pervaded the country, and the objects, which the Society purposes to effect, are such, that it must be crowned with success in its projected plans of improvement. The well being of all societies depends, in a great measure, upon the persons appointed to its management, and in this particular, the Navan Farming society is peculiarly fortunate in enjoying the foster-

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ing attention of the Lord Bishop of Meath. Although its name intimates it to be merely a local one, yet its fundamental resolution opens it to the neighbouring baronies, and to all persons of whatever parish or barony, who are desirous of becoming members. The annual subscription is not less than one guinea, but many gentlemen, who wish to promote and assist the views of it, have subscribed much larger sums.

A president, six vice-presidents, a treasurer, and secretary, are chosen annually. The secretary is not a member, but must be at the command of the Society; he therefore receives a salary.

The Society have hired a room in Navan, for holding their papers, and such books or tracts upon agriculture, as a majority, at every general meeting, shall agree to have purchased out of their funds. This room is at all times to be open to the members, but the secretary, in whose charge it shall be, and who is answerable to the Society, shall not suffer any tract or book to be taken, upon any condition.*

The Society direct their principal attention to the following objects, viz:—Improvement in the breed of cattle, draft horses, sheep, and swine, and the different branches of agriculture; the encouragement of the
skilful

* If members were allowed to borrow one book at a time, upon depositing double the value, which deposit should be forfeited, if the book was either lost or abused, it might be productive of more general utility, limiting the time, such book is to be from the library, to a certain period.

skilful and industrious, amongst the middling and lower classes of farmers, and of labourers, and persons of every description employed in husbandry; and the promoting of whatever can conduce to the bettering of the state of the poor, to increase their comforts, and to improve their habits and their morals. To bring these several objects more fully to effect, the Society appointed a committee to draw out a plan for carrying them into execution, which plan was laid before the Society, at their last general meeting, and approved of by them, and is as follows :

“ The committee appointed to draw out a plan, for carrying into effect the objects of the Navan Farming Society, having taken into consideration the several particulars, that were recommended to them, submit to the Society the following result of their meetings.

“ The first head, to which the attention of the committee is directed by the printed resolutions, is, the several premiums to be granted by the Society, for the improvement of the breed of cattle, draft horses, sheep, and swine.

“ Until the Society can be able to ascertain the amount of the annual subscription, on which it can rely, the committee cannot fix on any determinate sum for the several premiums, either under this or any other head.

“ They would only recommend one general maxim to the consideration of the Society for their adoption,

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namely,

namely, that its premiums in money be reserved for the middling farmers, and those descriptions of the labouring classes, whom they propose to encourage by rewards; and that the principal, and more wealthy members, be content with honorary medals, of small value, and the approbation and thanks of the Society.

“Supposing this maxim to be adopted, and that the funds of the Society are adequate, they propose :

“To the person, who shall produce on such days, and at such places, as shall be annually settled by the Society at its anniversary meeting, the best imported bull of any breed or age, a silver medal.

“To the person, who produces the best cow, of any age or breed, giving milk, a silver medal.

“To the person, who produces the best bull, bred in this county, a silver medal.

“To the person, producing the best yearling heifer, bred in this county, a silver medal.

“To the farmer, renting under fifty acres, who produces the best cow, his property, the sum of £2, 5s. 6d.

“To the cottier, who shall produce the best yearling calf, bred by him, the sum of £1, 2s. 9d.

“To the person, producing the best ram, a silver medal.

“To the person, producing the best ewe, a silver medal.

“To.

OF THE COUNTY OF MEATH. 465

"To the person, producing the best draft stallion, a silver medal.

"To the person, producing the best draft mare, a silver medal.

"To the person, producing the best boar, a silver medal.

"To the person, producing the best sow, a silver medal.

"To the farmer, holding not more than twenty acres of land, who shall produce the best boar, the sum of £1, 2s. 9d.

"To the second best ditto, the sum of 11s. 4½d.

"The same premiums to persons of this class for fows.

Second Head.

PLOUGHING, &c. &c.

"To the ploughman, who shall plough the greatest quantity of ground, in the best manner, and with the least stress or labour to the cattle, with one man and two oxen, the sum of £2, 5s. 6d.

"To the second best ditto, £1, 2s. 9d.

"To ditto, with one man and two horses, the sum of £2, 5s. 6d.

"To the second best ditto, £1, 2s. 9d.

"To the ploughman, who shall plough the greatest quantity of ground, in the best manner, and with the least

least expence, stress, or labour to the cattle, the sum of £2, 5s. 6d.

“ To the second best ditto, £1, 2s. 9d.

“ If the successful ploughman be working with his own plough and oxen, or horses, he shall have the option of taking the amount of his premiums, either in money or farming utensils. Places and days to be appointed, with timely notice for giving those premiums; the work to be performed by each plough, both in lea and stubble; and to prevent all suspicion of partiality, persons, no way interested in the candidates, to be appointed judges.

“ To the two farmers renting land, under one hundred acres, who shall employ such ploughs only, as can be worked with two horses, oxen, or heifers, without a driver, and having their ploughs, tackle, and cattle, in the best order, each the sum of £6, 16s. 6d.

“ The committee suggests the expediency of allotting a good sum for these premiums; persons wishing to be candidates for these, to give timely notice of their intentions to the secretary, that proper judges may be sent to view, and report to the Society.

Third Head.

GREEN TILLAGE.

“ To the person, who shall have the greatest quantity of land, with the largest and best crops of turnips, carrots,

carrots, or rape, to be used in feeding cattle, sheep, or swine, in winter, a medal.

“ To the person, who shall have the largest and best crops of clover, or vetches, for soiling, a medal.

“ To the person, who shall plant the greatest quantity of drill potatoes, planted with the plough, and hoed or earthed up twice with the plough, a medal.

“ To the person living by his farm, renting under fifty acres, who shall have the largest and best crops of red clover, turnips, rape, vetches, or cabbage, to be used in feeding cattle, sheep, or swine, as above, not less than three acres, the sum of £2, 5s. 6d.

N. B. Those, who soil their clover, or vetches, to have a preference.

“ To the person of the same description, who shall plant the greatest quantity of drill potatoes, as above described, the sum of £2, 5s. 6d.

“ To three persons, renting not more than ten acres each, and employing no less than half an acre, as above, each the sum of £1, 2s. 9d.

“ The committee recommend to the Society, to offer to supply any person, not renting more than ten acres, who intend to become candidates under this head, with such seeds as they may want, of the best quality, and at prime cost, provided they pay ready money, and give proper security, that they shall, *bona fide*, employ it in the manner, and for the purposes, set forth by the Society.

Fourth

Fourth Head.

“ To the farmer, renting not more than fifty acres, whose farm shall be kept in the best order, and in the highest state of cultivation, the sum of 2*l.* 5*s.* 6*d.*

“ To three persons, not renting more than five acres each, who shall keep their houses, out-houses, and offices in the best order, to be divided according to their deserts, 5*l.* 13*s.* 9*d.*

“ This head is sufficiently explained in the printed resolutions; the committee have only to recommend, that, when the premiums are settled, and held out to the public under this head, mention should be made of some particular quantity of drains, of certain dimensions, and of ditches planted with thorn-quicks and forest-trees, preserved in good order, under which the premium is not to be granted.

Fifth Head.

NEAT DWELLING-HOUSES.

“ To the person, who shall have erected the neatest and most convenient habitations for his labourers, and gets them kept in the best order, a medal. Porters' lodges, and other buildings of that description, to be excluded.

“ To

“ To six labourers, keeping their houses, out-houses and offices, as above, to be divided amongst them, according to their desert, the sum of 6*l.* 16*s.* 6*d.*

“ To six servants, employed in husbandry, who shall have remained the greatest number of years in one family, maintaining the character of sobriety, honesty, and moral conduct (the sums to vary according to the number of years and deserts), the sum of 11*l.* 7*s.* 6*d.*

“ To six labourers, who shall have brought up the greatest number of children, in cleanliness, propriety of conduct, and industrious habits, the sum of 11*l.* 7*s.* 6*d.*

“ To five labourers wives, who shall have best clothed their children by their own manufacture, either of linen or woollen, or who shall have spun the greatest quantity of linen or woollen yarn, by their own families, within the year, the sum of 5*l.* 13*s.* 9*d.*

“ To ten labourers, who shall have worked the greatest number of days, between May 1802, and May 1803, the sum of 11*l.* 7*s.* 6*d.*

“ N. B. Frequent white-washing, windows kept in repair, the floor filled up to the level of the threshold, a neat clean gravel, or paved way before the door, without dirt or dunghill; garden well fenced, and planted with fallow, ozier, willows, or forest-trees; and satisfactory proof, that neither cows nor pigs are suffered to remain or sleep in the dwelling-house; are
necessary

necessary conditions for the obtaining of this premium, which the committee recommend to be as considerable, and given to as many labourers, as the funds can allow.

“ The candidates for the premiums, under this fifth head, should give two months previous notice, either by themselves or their landlords or employers, to the secretary, of their intention to offer themselves, specifying the town-lands, on which they live, the landlords, under whom they rent, or the person, with whom they labour; that the judges, who ought to be persons totally unconnected with them, their landlords, or their employers, should have time to take their view.

“ The several points, included under this head, are sufficiently detailed in the printed resolutions. The committee have only to recommend, that, when the amount of the premiums is ascertained and advertised, it be inserted, that the labourers wives, who apply for premiums, for having best clothed their children with their own manufacture, or for having spun the greatest quantity of linen or woollen yarn, by their own families, within the year, shall produce such proofs of what they state, as shall appear satisfactory to a committee, to be formed for that purpose; and that the labourers, applying for the premium for the greatest number of days, which they shall have worked, be required to prove them from the books of their employers.

employers, or extracts from them, authenticated either by themselves, or their stewards or bailiffs.

“ The general resolutions having mentioned nothing of irrigation, the committee recommend to give a silver medal to the person irrigating or watering the greatest quantity of meadow ground. And to the person, renting under twenty acres of ground, doing the same, the sum of 2*l.* 5*s.* 6*d.*

“ The committee, having thus considered the several heads, that relate to the breed of cattle, and improvements in agriculture, come next to what they conceive to be amongst the most important objects of the Society—the morals and manners of the lower classes. It is in vain to look for industry amongst an immoral, licentious, or disorderly people. Whoever compares the state of the two sister kingdoms with our own, and sees how far behind them our people are in every thing, that contributes to the wealth, prosperity, and peace of a country, must be convinced, that it is not from the soil, or the climate, that the difference proceeds. Equal in both to England, and superior to Scotland, it is to the character and habits of the people, that we are to look for our mortifying inferiority; it will, therefore, be in vain to form associations for promoting industry, or securing to our country the blessings it bestows, without going to the source, and endeavouring to introduce, and universally diffuse, those manners,

manners, and those habits, without which industry cannot exist among the great bulk of the people.

“ Under these impressions, the committee have considered the concluding heads of the printed resolutions, and strongly recommend, that the premiums of the society should never be given to persons, notorious for living in habits of drunkenness, dishonesty, breach of trust, destruction of property, and contempt of religion or its ordinances. Such exclusions may be inserted under the different heads, for which premiums are offered to that class of people, among whom these transgressions, and other breaches of the law of the same nature, such as nuisances on the highways, breaking down or destroying fences and ditches, frequenting wakes, and other disorderly meetings chiefly prevail.

“ The first thing recommended to the committee, under these heads, is, to produce a social and friendly intercourse between the landlords, and the farmers, and tenantry of the country. This lies entirely with the higher and more wealthy classes, and it cannot well admit of any other rule, than the feelings of the individual, and occasional consideration.

“ The members of this society might, however, pledge themselves to each other, to encourage this intercourse as much as possible; frequently to invite the wealthier landholders into their society, and commune with them on their occupations and their interests; frequently to visit the habitations of the lower classes
of

of them; to encourage and assist them in keeping them clean and orderly; to see that they send their children to receive such instruction, as the neighbourhood affords; to assist them in procuring advice and medicines when ill, and give them, in general, every relief their situation may require.

“ To pledge themselves to each other, appears to the committee to be the only mode of carrying this, and all the subsequent heads, into effect; and, in pursuance of the instructions, given them in the concluding paragraph, they propose the following form, which every member of the Society shall be invited to sign.

“ We, the Farming Society of Navan, do pledge ourselves, as gentlemen and as christians, that we will, to the utmost of our power, encourage a social and friendly intercourse between the different ranks and descriptions of persons, in proportion to the influence, which our several situations may enable us to exert. That we will, by every means in our power, by advice, by remonstrance, and by kindness, encourage the lower orders in our respective neighbourhoods, instead of applying to attorneys in their disputes, to lay them before such gentlemen, and persons in their neighbourhoods, as they can confide in, and leave them to be settled by them. That we will ourselves set the example of observing the sabbath, according to the ordinances of religion, and the laws of the land: that we will discountenance, to the utmost of our power, all breaches

breaches of it in our families, and among our servants, tenants, labourers, and dependents; and that such of us as are magistrates, with our authority, and the rest, by our countenance and support, will be assistant to the clergy of the different persuasions, in whatever they shall require of us, towards this important object. That we will equally discountenance, in our families, and among our tenants, labourers, and dependents, the poisonous use of whiskey, and other spirituous liquors. That we will exert our utmost vigilance in discovering all private stills, all unlicensed houses, in which whiskey is sold, and cause information to be given thereof to the magistrates and excise-officers of our neighbourhood; of whose neglect of duty, should they be guilty of it, we will, without favour or partiality, complain. That we will equally watch over licensed houses, harbouring improper persons, or keeping unseasonable hours, or selling liquors on any hour of the Sunday, contrary to the late act of the United parliament. That we will call upon the clergy, in our respective neighbourhoods, to exhort their congregations to repair to their respective homes, immediately after the celebration of divine service, instead of loitering in the purlieus near the place of worship; and that we will ourselves discountenance, to the very utmost of our power, all persons, over whom we can have authority or influence, whom we shall find transgressing in this instance. That we will be assistant to each other,

and

and encourage all others to associate with us, in putting the laws of the land in force against all vagrants; that we will strictly forbid our tenants and labourers, and all, over whom we have authority or influence, from receiving or harbouring them within their houses, and will rigorously punish them, whenever they do. That we will strictly, and on every occasion, without favour or partiality, enforce the laws of the land against all trespassers breaking down ditches or fences, cutting trees or hedges, or robbing the fields of green crops, sheep, or lambs, and that they shall be prosecuted at the expence of the Society. And, finally, that we will give every assistance in our power to the clergy of every denomination, in our respective parishes, in any proper scheme they may propose, for training up the rising generation to virtue and religion, and giving them an education suited to their condition; and that, by subscription, inspection, and management, and every other convenient means, we will enable them to establish and conduct a school or schools for that purpose."

This report of the committee, having been approved of by the Society, was ordered to be printed and published, and the several premiums, therein submitted, to be offered as the premiums of the Society.

SECT.

SECT. 2. *Weights and Measures.*

THE great diversity of weights and measures, used throughout the county, and the different quantities in the same denomination, in different parts of it, are productive of infinite trouble and perplexity. There is hardly a town of any consideration in the district, that does not, in some degree, differ from the other in some one denomination or other of their weights. For instance, the hundred weight in Kells is one hundred and twenty pounds; and in that of Navan, a distance of eight miles, there are only one hundred and twelve pounds; in the intermediate places, persons buying must stipulate by which weight they purchase, the neglect of which stipulation is often productive of dispute.

Corn is generally sold by the barrel; and meal, flour, &c, by the hundred weight avoirdupois. Eggs, apples, oysters, nails, quicks, plants, &c. per hundred, of six score.

Wheat has	- - - -	20 stone per barrel.
Barley	- - - - -	16 - ditto.
Bere	- - - - -	16 - ditto.
Oats	- - - - -	14 - ditto.
Rye	- - - - -	20 - ditto.
Potatoes	- - - - -	21 - ditto.
in some places	- - -	25 - ditto.
Vetches, peas, and beans	- - -	20 - ditto.
Malt	- - - - -	12 - ditto.

Flour

Flour 112lb. per cwt.; oatmeal 112lb. in some places, in others 120lb. Bran is generally sold by measure, and pollard by weight, eight stone making a barrel.

Beef is sold in some markets by the score, and in others by the pound; a pound contains sixteen ounces, and a stone fourteen pounds of every thing, except wool, which has sixteen pounds to the stone, and seven stone to the hundred. Lime, sea-coal, and culm, are sold by the measured barrel; Kilkenny coal by the hundred; hay and straw by the ton, or by the load, containing $4\frac{1}{2}$ cwt.

In the measurement of lime, there is a scandalous neglect of observing, that it be measured by a stamped barrel. Lime-burners, who are disposed for fraud, have ample means, by contriving the measure, which they call a barrel, to be as narrow in dimensions as they please.

Three feet, of twelve inches each, make a yard; seven yards make a perch; forty perches make a furlong, and eight furlongs a mile; forty square perches also make a rood of land, and four roods an acre.

Bread holds the same price continually, but the weight alters according to the price of corn or flour. The consumer, in this instance, is liable to very great imposition, not knowing the weight the loaf ought to be. A man will easily find out the price, which should be regulated according to the price of flour, and published every week or fortnight by the magistracy, when

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it

it would be quite out of his power to find out the weight. Until some regulation, with respect to weights and measures, and the assize of bread, is adopted, and strictly enforced by fines and forfeitures, the consumer must be, in a great measure, at the mercy of the bakers and meal-men.

To buy and sell dry goods by weight, seems to be the mode least liable to imposition. The quality of grain may be easily defined by the size it occupies, as weak poor corn holds a much larger space than strong; the buyer can, of course, be much more easily deceived in buying by such measure, than by weight. Measuring corn is also very tedious upon the delivery at the mill, whilst weighing it is attended with very little trouble. The great advantages, arising from a universal standard of weights and measures, seem to have been well understood, at so early a period as the reign of Henry the seventh. Budæus, a writer of some consequence at that time, makes the following remark :

*Una fides, pondus, mensura, monita sint una,
Et status illæsus totius orbis erit.*

Attempts have been made, I understand without effect, towards establishing a universal standard in England and Scotland; but then, if commodities were liable to a certain tax, if bought or sold under circumstances differing from the rule prescribed, the regulation would very soon become general.

CONCLUSION.

CONCLUSION.

MEANS OF IMPROVEMENT, AND MEASURES CALCULATED
FOR THAT PURPOSE.

ONE of the first steps towards the improvement of any country, is the comfortable and convenient lodging of the farming classes, who are at present wretchedly housed in this district. This can only be effected by the landlords building a farm-house and suitable offices on each farm, or allowing a certain sum to the tenant for so doing, upon a specific plan to be furnished by the landlord, which farm-house the tenant should be bound by his lease to keep in repair. The cottager should be next looked to, and encouraged by rewards to keep his house neat and clean. The necessity of cleanliness, and the admission of fresh air, to circulate freely through the houses of the poor, together with white-washing annually with lime, cannot be too strongly impressed upon their minds, not merely as being ornamental, but as highly conducive to health, exempting them from the frequent return of the low fevers,

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fevers, to which they are so liable, and by whose infection so many worthy members of society are yearly carried off; and the landlords should be as strenuously urged to provide the means of so doing, by having neat commodious houses, with *windows capable of being opened*.

Independent of the pleasure it must give the landlord, to see the cottages neat about him, his tenantry, from not being impoverished by sickness, generated by confined air, damp lying, &c. will be better able to pay their rents, and, in the end, he must derive satisfaction and comfort attended with an increase of emolument.

2ndly, To compensate in some degree for the non-residence of proprietors, resident agents ought to be appointed, whose attention should be directed to the improving tenants; thus enabling him, from his own knowledge and observation, to recommend such to the landlord, and to assist him, both with advice and money, if requisite, to make those improvements lasting.

In every instance, he should discourage the exhausting or unimproving tenant, and upon no account let to him; and every tenant should be obliged to plant a certain number of forest trees, yearly, and to protect them as much as in his power, when planted. This subject is, however, more fully treated of in the tenth chapter of this report.

3rdly, To

3rdly, To recommend it strongly to gentlemen of property, to keep good bulls of the most approved kind, for the use of their tenants and the surrounding poor, as the most speedy method of mending the breed of black cattle of any country, independent of the benefit society derives from the improvement; the poor are better enabled to pay their rents, from the greater price, which they receive for their stock.

4thly, To preserve a proper medium, with respect to the quantity of land each farmer is to hold, not to let it exceed his means, either with respect to his capital or his attention. It is utterly impossible for one man to pay that attention to land, that it requires, when he is in possession of such vast tracts as we see in the occupancy of some persons in this district. What a loss then does society sustain, by not having that produce returned to it from the earth, that she is capable of affording with a little superior attention, and that too without exhausting her strength, but, on the contrary, from good tillage, rather adding to her vigour?

5thly, To encourage the establishment of such manufactures, as would employ a great number of women and children, in some of the situations that so invitingly offer themselves, would be of infinite service; the distribution of spinning wheels through the county, would be another great advantage. Some few years since, the Dublin Society disposed of a great number through the county, as premiums, to persons, who had
sown

sown a certain quantity of flax; not less than one rood; but, with humble deference, I should presume, that the person, who was able to sow a rood of land with flax, stood in no need of the purchase of a wheel.

To my own knowledge (as I had the distribution of a great many of those sent down by the Society) gentlemen, and the more wealthy farmers of the county, were those, who became entitled to them; many individuals got three or four, whilst the poor man with a large family, to whom a wheel would have been a great object, was left without it. The uncommon scarcity of these two last years was such, that the poor were under the necessity of expending on food all the money they could earn, so that very few of them were able to buy wheels for their growing daughters, and many were obliged, through absolute want, to part with the wheels they possessed; so that numbers of very industriously inclined girls are at present rather a burden, than an assistance to their parents, for want of some mode of employing their time to advantage; this defect cannot be too speedily redressed.

In short, the objects, to which the Dublin Society may best direct their attention, for the further improvement of this county, are ably set forth in the report of the committee, appointed by the Farming Society of Navan to draw up a plan for their adoption. The means most likely to succeed in effecting those purposes, I shall leave to their better judgment to devise.

Before

Before I conclude this report, I must beg leave to return my sincere thanks to the several gentlemen, who have lent their assistance in forwarding this work, but particularly to the Lord Bishop of Meath, (through whose influence I was favoured with much information, from many of the clergy of the diocese), and to The Rev. Doctor Beaufort, Collon.

Doctor Elliott, Trim.

Thomas Toomey, Navan.

William Kellett, Moynalty.

Brabazon Disney, Sydean.

John Kellett, Kilmaisham-wood.

Vesey Dawson, Galtrim.

William Henry Irvine, Dunshaghlin.

L. K. Conyngham, Ratoath.

John Gibney, Navan, M.D.

John Pratt Winter, Esq. Angher.

Robert Waller, Esq. Allentown.

Brabazon Morris, Esq. Tankardstown.

William Morris, Esq. Mallogha.

John M. Grainger, Esq. Causestown.

Thomas Barnes, Esq. Dunover.

T. B. Harman, Esq. Drogheda.

David Thompson, Esq. Oatlands.

John Garnett, Esq. Archall.

Michael Gibney, Esq. Dormstown.

Samuel Garnett, Esq. Summerseat.

Thomas Rothwell, Esq. Rockfield.

Mr.

Mr. Patrick Murphy, Navan.

Mr. Mathew Codd, Navan.

Mr. Arthur Irwine, Poles.

Mr. Edmond Brennan, Grange.

Mr. Thomas Russel, Dollardstown.

Had all the different gentlemen, to whom I forwarded queries on the subject, returned answers thereto, I should have been enabled to have made a much fuller report than I have. If, however, the reader has received either pleasure or information from the foregoing sheets, he must attribute the merit to the assistance I have received on the subject, as, in most instances, I have been but the *mouth-piece*, to convey the information given by others; and if I have omitted mentioning any person, who has given me information, he must not attribute it to any disrespect, but to my want of recollection at this instant.

Conscious of the many imperfections of this volume, I give it to the public, with a hope, that my good intentions may in some degree plead for its numerous defects. The only merit I claim is, that of having spared neither time, expence, nor trouble, in procuring the best possible information on the various subjects, of which it treats; and if, upon the whole, it shall be found unworthy of a place amongst the able reports of the counties of Ireland, I hope I shall have the merit allowed me, of having "perished in a great attempt."

That

That the day may not be far distant, when the agriculture of Meath shall, through the laudable exertions of the Dublin Society, united to the efforts of an enlightened tenantry, become such, as its pleasant climate, its generous soil, and its propinquity to the metropolis, and the port of Drogheda, promise, is the earnest wish of,

R. A. THOMPSON.

APPENDIX.

APPENDIX.

No. 1.—*Ex Codice MS. Lambeth. XX. 635. folio 71.*

THE castle of Trym, in Methe, built by William Peppard, Lord of Tabor, in anno 1220. Castle Carberry, near Trym, was built by Richard Burghes Earl of Ulster, in K. Henry 5th tyme.

No. 2.—*Ex Codice MS. Lambeth. G. 608. folio 118.*

Anno 34, Henry 8th, Chap. 3rd.

Dublin, before Sir Anthony St. Leger, Lord Deputy.

Every ploughed land within the county of Methe and West Methe, used to be charged with subsidie and not free from imposition, shall be, during the term of four years, charged with the sum of three shillings and four pence, towards the building the walls of the town of Navan.

No. 3.—*Ex Codice MS. Lambeth. XX. 635. folio 69.*

The county of Methe was first in Lacye, from him by heir general it descended to Jeneville, from whom,
by

by marriage of an heir female, it fell to Mortimer Earl of Marche, in England, and after of Ulster, whose daughter and heir, as before, married the Earl of Cambridge, grandfather to King Edward the 4th, since which time it is buried in the crowne.

No. 4.

The contents of a cantred, according to the old recorde.

Plough land contained 120 acres, 21 feet to the perch.

A cantred, in the Black Book of Dublin, is to containe thirty villatas terras, which some call quarters of land, and every villata must containe so much ground as will feed 400 cows to pasture, and they to be divided into four herds, so one herd may not trouble the others pasture, and every villata to containe seventeen ploughed land.

A hyde of land containeth five yards, every yard containes four acres, so a hyde of land is twenty acres. An acre containes forty perches long, and four in breadth.

A yard containeth four acres, five yards make a hyde, and eight hydes make a knight's fee, so that it appears that a knight's fee should hold 160 acres, and that is deemed a plough tilth by the year.

No. 5. *Ex Codice MS. Lambeth. XX. 635. folio 83.*

A note of the risings out the general hostings, by the Lords, gentlemen, &c. within the English pale, in
Methe,

APPENDIX.

3

Methe, in the latter end of the reign of Queen Elizabeth, and beginning of that of King Henry the 8th.

BARONIE OF DULEEKE.

Lord Viscount Gormanstown,	8 armed horsemen.
Darcy, of Platten, in person,	- 3 ditto,
James Aylmer, in person, -	- 2 ditto,
Oliver Darcy, in person, -	- 1 ditto,
Talbot, of Dardistown, -	- 3 ditto,
Caddell, of the Nall, in person, -	- 2 ditto,
Birte, of Tullocke, in person, -	- 2 ditto,
Hold, of Payneston, in person, -	- 1 ditto,
Hambige, of Smithston, in person,	1 ditto,
Sarfield, of Sarfieldton, -	- 1 ditto,
Bath, of Colpe, -	- 1 ditto,
	<hr style="width: 100px; margin-left: 0;"/> 25

BARONIE OF SKRYNE.

The Lord of Killeen, the Lord of	
Dunfany, with the rest of the	
Plunkets, - - -	- 24 ditto,
Nicoles Nugent, in person,	- 3 ditto,
Mr. Draycott, - - -	- 1 ditto,
Sir Thomas Cusacke, of Lismullen,	
in consideration of his absence,	
but - - -	- 3 ditto,

31

56
Sir

Brought forward,	armed horsemen	56
Sis Christ. Cheevers, of Maston,	4 ditto,	
Bath, of Raphecke, in person,	3 ditto,	
Kent, of Daneston, - - -	2 ditto,	
Cusack, of Gerrardston, in person,	2 ditto,	
Thomas Dillon, of Riverston,	3 ditto,	
Peter Dillon, - - - -	1 ditto,	
Tancerd, of Castleton, in person,	1 ditto,	
The Portriff of Saryne, - - -	1 ditto,	
	<hr/>	17

BARONIE OF RATOATH.

Barnewelle, of Kilbrye, in person,	1 ditto,	
Berforde, of Kilrowe, in person,	1 ditto,	
Talbot, of Robertston, in person,	2 ditto,	
Iehers, of Dunshaghlin, in person,	1 ditto,	
Weafey, of the Blackehil, in person,	1 ditto,	
	<hr/>	6

BARONIE OF DUNBOYNE.

Phepe, of Rowen, if he have free-		
dom, - - - -	1 ditto,	
Francis de la Hide, - - -	1 ditto,	
	<hr/>	2
		<hr/>
		81

BARONIE

BARONY OF DEECE AND MOYFENBATH.

Brought forward,	armed horsemen	81
The Baron of Galtrim, in person,	4 ditto,	
Barnewell, of Antifston, in person,	2 ditto,	
De la Hide, of Morglare, in person,	2 ditto,	
James Goodall, - - -	2 ditto,	
Westly, of the Dangen, - -	3 ditto,	
Bartlemew Cufacke, - - -	1 ditto,	
Fleming, of Derpatrick, in person,	1 ditto,	
Mercler Hufsey, - - -	2 ditto,	
De la Hide, of Affye, in person, -	1 ditto,	
		<hr/> 18

BARONIE OF LUNE.

Lynch, of Dunmore, - - -	1 ditto,	
Rochford, of Keranston, in person,	1 ditto,	
The Portriff of Athboy, - - -	4 ditto,	
Bernaby Sherlocke, - - -	2 ditto,	
		<hr/> 8

BARONIE OF NAVAN.

The Bishop of Methu, - - -	8 ditto,	
The Lord of Trimberton, - - -	6 ditto,	
The Baron of Navan, - - -	3 ditto,	
The Baron of Dillon, - - -	2 ditto,	
		<hr/> 19

126

Rochforde,

Brought forward,	armed horsemen	126
Rochforde, of Kilbride, - -	4 ditto,	
Michael Cusacke, in person, -	2 ditto,	
Ivers, of Racayhe, - -	1 ditto,	
The Portriff of Trym, - -	3 ditto,	
The Portriff of Navan, - -	4 ditto,	
Teeling, of Mullagha, in person,	1 ditto,	
Hill, of Alleston, in person, -	1 ditto,	
Misset, of Laskerton, - -	1 ditto,	
Eustace, of the same, - -	1 ditto,	
		<hr/> 18

BARONIE OF KENLIS.

Alex. Barnewell, with the horsemen,	3 ditto,	
Everard of Randleston, in person,	2 ditto,	
Mape, of Maperath, in person, -	1 ditto,	
Drake, of Rathode, in person, -	2 ditto,	
Betagh, of Maynaltie, for his county,	6 ditto,	
Ledwiche, of Cookston, - -	6 ditto,	
Fitz-John, of Fyanston, - -	1 ditto,	
The Soffreigne of Kenlis, archers,	2	
		<hr/> 23

BARONIE OF SLANE.

The Baron of Slane, - -	6 horsemen,	
Barnewell of Stackallen, - -	4 archer horsemen,	
		<hr/> 10
		<hr/> 177
	Barnewell,	

APPENDIX.

7

Brought forward,	armed horsemen	177
Barnewell, of Roweston, - - -	2 ditto,	
Netterfield, of Dowth, in person,	2 ditto,	
		<hr/> 4
All archers to be on horseback.		

THE HALF BARONIE OF FOWRE.

The Plunkets, - - - -	24 horsemen,	
Balfe, of Galmoweston, in person,	2 ditto,	
Barnewell, of Morlow, in person,	1 ditto,	
Tuite, of Beltrastin, - - -	1 ditto,	
		<hr/> 28

BARONIE OF MORGALLION.

Thomas Fleming, of Stephenston,		
in person, - - - -	3 horsemen,	
White, of Clongell, in person,	2 ditto,	
Veldon, in person, - - -	2 ditto,	
		<hr/> 7
		<hr/> 216

Ex codice MS. Lambeth. G. 608, fol. 94.

Hugh de Lacy factus est dominus Midie in anno
18 Henerici secundi.

Geofrey de Geneville, dominus de Trym, in anno
2do. Edvardi secundi.

Roger de Mortimer, dominus de Trym, anno 2do.
Edvardi secundi.

F f

Johannes

Johannes Bolde, creatus Baron de Ratothe, in anno
8 Edvardi IV.

Viscounts of Methe, as they are now living, in anno 1616,
17, 18.

Preston, Viscount Gormanston, anno 18 Edvardi
IV.

Fleming, Baron of Slane.

Plunket, Lord of Killescu, in anno, Henrici VI.

Barnewell, created Lord of Trimberton, anno 2do
Edwardi IV.

Plunket, Lord Dunfany, Edvardi IV.

Folio 95.—*Barons in Methe extinct, as they are found
upon recorde, but when they had their beginning is un-
certain.*

Thomas Maxward, Baron of Skryne, anno 5, Hen.
IV.

John Cusack, Baron of Clonmullen, obiit in anno
1370.

Misset, Baron of Lunc, extinct in anno 1273.

Barons or Baronets remaining in Ireland, in anno 1616.

Hussey, Baron of Galtrim.

Nangle, Baron of Navan.

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No. 6.—*Particular Account of Augher, by John Pratt Winter, Esq. in Answer to my Queries on the Subject.*

Augher, Nov. 1, 1800.

DEAR SIR,

I WISH it were in my power to contribute any valuable information for the Survey you have undertaken of this county, but must doubt, after making some enquiries for that purpose, whether I have been able to procure any, which may appear to you very material. Perhaps, having been but little engaged in the practice of farming, some things may have escaped my notice, which, to one more conversant in that business, might afford matter of useful observation.

I, however, return your queries, with such answers annexed as I am enabled to give; and, since my attention has been directed to the subject, shall further venture to offer a few thoughts and observations on some points, more at large than the confined compass of those answers would admit; doing so, indeed, rather to shew my inclination to promote the object of your undertaking, than from the hope of suggesting any thing deserving much attention.

It may not be improper to describe, somewhat more fully, the natural circumstances, as they appear to me, of this part of the country.

F f 2

Augher,

Augher, and some of the adjoining lands, are part of an elevated tract, which separates what may be called the regions of the Boyne and Liffey; the streams, which take their rise here, running in opposite directions, north-westward to the former, and south-eastward to the latter river. Numerous springs supply a sufficiency of water for all the common useful purposes; while, from the high level of the land, and fall from it each way, whatever is superfluous is easily carried off. The surface is pleasingly diversified with hills, not indeed very lofty or picturesque, but contributing much both to use and ornament, and, being for the most part of very gradual ascent, scarcely obstructing, in any degree, the operations of tillage. The situation, therefore, may be regarded as in no small degree favourable, and, I presume, likewise healthy.

The soil, in general, I take to be what is termed a strong, deep loam. Its quality, however, is variable; in some places being more open and gravelly, but oftener, I think, defective, from being too stiff and clayey; as in low grounds particularly, and wherever there is not a quick fall for the water, is very apparent; those places generally abounding in rushes, and other kinds of coarse plants, occasioned by the coldness of the soil too retentive of wet. In some of the bottoms, the soil is of that black, moory kind, which seems to have been deposited by the overflowing
ings

ings of bogs, of which there are a few in this neighbourhood, and which that species of soil is either found bordering upon, or connected with, by means of the course of the waters, as far as I have been able to observe hereabouts.

As it is material to know the nature of the various substrata, as well as that of the surface-soil, I wish it were in my power to describe, with any degree of exactness, those, which are to be met with in this part of the country; but an accurate knowledge of them would require a much more particular examination than I have ever bestowed on them.

Frequently the soil seems to me to descend to the depth of several feet, with scarcely greater variation, than must necessarily be occasioned by cultivation, exposure to the air, and the decay of vegetables on the surface. Sometimes a stiffer and more sterile clay is so near, as to be reached by the plough. That mixture of stony, calcareous, and other matter, which is usually called manuring gravel, and which seems to be the most favourite manure in use, is found commonly, and at an inconsiderable depth, as in the bottoms of ditches. Marle, properly called, has not been met with in many places, or in large quantities, though I have now and then seen different sorts of stuff thrown out of pits and drains, which, from their effervescent strongly with vinegar, I should suppose to be, in some degree, more

or

or less, of a marly nature. Gravel and sand, coarse and fine, some fit for roads, some for building, are found in tolerable abundance, and at a convenient depth. That kind of crumbling slate, so common in quarries, appears near the surface in some places, chiefly in the hills, and, I suppose, generally indicates a quarry of some sort or other beneath. In a few places hereabouts, quarries have for many years been opened, containing a hard blue limestone, with other kinds of a good quality, mixed with some, that are unserviceable; so that materials for building are not deficient.

On the whole, if this district can claim little distinction by its progress in agriculture, it may at least boast its full share of natural advantages. Perhaps it may be adduced as an instance of what has been frequently remarked, that it is not on the most fertile soils an improved system of cultivation is usually seen; the cultivators, in such situations, being apt to content themselves with that tolerably abundant produce, which they reap even with indifferent management, and not feeling equal incentives to industry, ingenuity, and enterprise, with those, who partake less of the bounties of nature. This observation may, indeed, in some degree, be applicable to almost the whole of the kingdom; but, in respect of this part of the country, there is another circumstance, which naturally retards the advancement

advancement of agriculture, namely, the nearness of the Dublin market, and the advantages thence arising to the feeding of cattle; whereby the most opulent occupiers of land, and most competent to introduce improvements, are generally withdrawn from any considerable attention to tillage, and are engaged chiefly in the less troublesome and more simple system of pasturage.

It is true that, in the most approved methods of conducting agriculture, the extension of tillage does not at all lessen, but often encreases the means of feeding cattle; but however justly that mode of management may be commended elsewhere, it would seem, either that it is not so fully adapted to the natural qualities of this country, or that this country is not yet in circumstances, which will admit of its very general adoption.

Since the system of farming, which falls under my observation, contains scarcely any thing striking or peculiar, or which you cannot equally well observe in almost any other part of the county, it would be useless to trouble you with a detail of it. One circumstance, however, I shall mention; which, as it relates to an alteration in practice, that seems to be gaining ground, and, of course, involves a comparison between different modes of practice, and also, as I am not certain whether it be equally observable in other parts of the country,

country, may deserve to be noticed ; it is in the mode of sowing winter corn. Formerly it was, for the most part, sowed in narrow ridges, and covered with the plough, that is, in the farmer's phrase, sowed under. But for some time past the practice seems to have been increasing, and is at present that most prevalent, of sowing in flatter ridges, covering with the harrow, and afterwards with additional mould shovelled on by hand from the furrows. Both methods must be familiar to you, and every one acquainted with country business. What I wish to remark is, the increasing practice of the latter in this neighbourhood ; it is attended with more labour and expence than the former method. The reason, which I hear assigned for the preference given to it, is that, the soil being generally, as I observed, rather stiff and impervious, the seed is apt to be too thickly covered with the plough, and thence much of it prevented from shooting ; whereas with the harrow and shovel it receives a lighter and more equal covering ; the furrows, too, are thus cleared with great exactness, and, with the assistance of water-cuts, opened in proper directions, the seed is kept sufficiently dry, notwithstanding the flatness of the ridges. It may be worth considering, whether the practice be well founded, and the prevalence of it advantageous ; or, supposing it to be preferable to the old method, whether

ther the same purposes might better be obtained by any other mode of management.

One instance I find in this neighbourhood, of a practice rather uncommon, and which is adverted to in your queries; that of irrigation. Mr. Patrick Daniel, of Ballintogher, in this parish, has for many years adopted that mode of improvement, on a very simple plan indeed, but, however, serviceable. His situation is such a one as would readily suggest the practice. His farm extends a considerable length along the declivity of a hill, and at the bottom is a narrow strip of flat meadow ground, bounded on the opposite side by a small stream. It is not, however, this stream which he employs in irrigation, as it issues, for the most part, from bogs; and he judges, justly I presume, that boggy sediment would not tend much to improve the quality of his meadow. Nearly in the centre of his farm, a stream descends from the high grounds, in a channel scooped by nature in the declivity. This, when it reaches the bottom, he turns, on either side, into a ditch, which runs immediately under the upland; and thence, by opening trenches with the plough in various directions, he conducts the water over such parts of his meadow as he think proper. It is to be observed, however, that, in his application of water as a manure, he does not seem at all sensible of the fact, which a fuller and more enlightened experience is said to have established,

established, that even the purest water, merely by flowing over grass-land, improves the quality of the herbage. Regarding only its more obvious effects, he considers it solely as a conveyance of manure, in itself of no value; and, conformably to this opinion, it is only in times of flood, when the stream is considerably swelled, and, running with force and rapidity, bears along with it a large quantity of mud, which, in its slower motion over the meadow, it may deposit on the surface, that he supposes any material benefit to arise from this application of it. But still, however erroneous his ideas may be, or defective his management of this source of improvement, there is no doubt that his practice, such as it is, is productive of much advantage; and, in a country, where few attempt any thing new or unusual, it may merit some particular notice, as a step in advance, and an example worthy of imitation. It offers, too, an instance, which it may not be unpleasing to remark, of the first rude and imperfect conception of an ingenious branch of the rural art; for however long known, and well understood, the practice of irrigation may be in other countries, in the case of Mr. Daniel it is certainly an original attempt, not copied from any example, nor derived from any instruction, but altogether the suggestion of an intelligent and observant mind, placed in favourable circumstances, and industriously profiting by them:

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In addition to the foregoing, I have just learned another instance of the same nature, in which the process is still more simple. The Rev. Mr. Davidson, some time curate of the parish of Rathmullian in this neighbourhood, and occupying the glebe thereof, has adopted the plan of watering, on a piece of bottom meadow, which the circumstances of the situation enable him to effect with scarcely any trouble. Above the upper margin of the meadow a mill-stream is conducted. By occasionally opening passages in the dam, at such times as the water is not required for the mill, he turns it upon the meadow, over which it flows till it falls into the natural channel of the stream, which forms the lower border.

As you express a desire to collect opinions respecting the improvements, which it might be expedient to introduce, I am tempted to offer you a few thoughts on that head, though not without considerable diffidence. Nothing can be more natural in those, who are interested in agricultural pursuits, than a zeal to suggest plans of improvement; and, at the same time, nothing can be easier, to those acquainted with the variety of more perfect systems practised in other countries, than to devise such plans in the greatest abundance. I cannot, however, avoid thinking, that this zeal, if not prudently moderated, may readily transgress the limits of utility, and no longer promote, but, perhaps, rather retard

retard the great object, which it proposes. The grand cause of the backward state of this country is acknowledged to be its want of capital, which, from various untoward circumstances, has never grown to a sufficient amount to supply funds for pushing, to any great extent, the various improvements, of which it is susceptible. The quickest possible increase, therefore, of this capital, so as to furnish still fresh supplies for the quickest succession of improvements, is the object, which is to be constantly in view; and, consequently, while so many things of importance remain yet to be effected, it is not sufficient, that an object proposed be in itself really desirable, but it is to be seen also, that the pursuit of it be not urged precipitately, interfering with others, which claim equal or greater attention. Improvements have a natural order, in which to advance; all, perhaps, partaking, in some degree, in the general movement, but the most beneficial holding the foremost place, and none forced forward out of their due course, or encouraged beyond their just proportion of utility. It is not, indeed, to be expected, that this natural progress should in no instance be interrupted, nor is it possible to be certain, at every step, of treading exactly in the right path; but, in general, the interest of individuals, practically engaged in business, and intent on the most profitable employment of their time and money, is a tolerably sure guide, though not
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certainly excluding the use of any assistant means, which can be devised for accelerating improvement; such means, no doubt, there are, which may serve, if applied judiciously, to quicken diligence, rouse emulation, enlighten ignorance, and occasionally to open unthought of sources of wealth to the community. But there seems reason sometimes to fear, that, when speculative men, or men of fortune, who, in their pursuits of this nature, seek applause, distinction, or amusement, rather than profit, are eager to direct the practice of the country by their ideas, their efforts serve to little other purpose, than needlessly to dissipate a portion of an already scanty national capital, and to interrupt the regular, steady progress of improvement. Not obliged to a rigorous calculation of loss and gain, which ought to regulate all such undertakings, their particular taste, or, perhaps, caprice, directs their views; and, if the favourite object, which actuates their zeal, happen also to be one, in which fancy, rather than utility, is often the criterion appealed to; and, if further the pursuit of it occasion a considerable drain of wealth from the country, the effects of such interference may be still more mischievous. From these considerations, and because I am sensible, that I have not sufficient experience to give any authority to my speculations, I shall be cautious in indulging them, and offer only a few ideas, concerning such improvements,

ments; as seem the most obvious, and flow most naturally from the prevailing practice of the country; though after all, perhaps, in what I have just observed, I have but prefaced a censure, to which I may seem myself justly liable. Amid the variety, which is to be seen in the modes of agricultural management, one essential distinction is easily noticed, which plainly marks out two very different systems. In the one of these, the same land is kept constantly in a state of tillage, and the great object of the agriculturist is, to guard against the deterioration of the soil by a judicious variation and arrangement of crops, wherein a field is opened for much profound reasoning and refined management. In the other, a more simple plan, and, therefore, better suited to the infancy at least of agriculture, is followed. The land is kept in tillage only for a limited time, and is then restored to grass; a plan, which renders a scrupulous regard to the selection of crops, though not immaterial, yet less necessary; the subsequent rest and amelioration of the land, in a state of pasturage, serving to restore the fertility, which it may have lost while in that of tillage.

As the former of these systems very generally prevails in England, so does the latter, almost universally, in this country. How far the one of them may be entitled to a preference above the other, I am not competent to determine; but this much seems certain, that

no sudden change can be effected, even though it were evidently desirable, but that the present established system must, for a long time to come, continue the most prevalent; it is, therefore, material, to give to that system all the advantages, of which it is capable. And here, in my opinion, is an object, among the first to claim attention, admitting manifest improvement, without any violent alteration. The great point to be attended to, in this mode of management, is, to lay down ground in clean order, without being previously too much exhausted, and with good kinds of grass-seeds, that so a profitable crop of grass may be obtained as speedily as possible. The too frequent neglect of all these particulars is visible in the waste appearance of many fields, in all parts of the country. Perhaps some encouragement to a more general attention in this respect might be easily and beneficially afforded. Besides that obvious one, of offering premiums for this purpose, it occurs to me, that, should a farming society, as has lately been proposed, be successfully instituted in this county, it might be an object worthy of their earliest attention, if not attended with too many difficulties, to establish in some central place in the county, of principal resort, a repository or store-room, under their inspection, to be constantly supplied, among many things which might appear eligible, with the best kinds of grass and other seeds, such as should best suit the

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the agriculture of the country. In these the Society might give such premiums as they should think fit; and neighbouring farmers, resorting to market, and gradually others more distant, finding a sure and convenient place for supplying themselves with those articles, would often be induced to purchase them, when otherwise, from the uncertainty and difficulty of procuring them, they would be neglected. An establishment of this kind, conducted under judicious regulations, I should think, might be worth supporting, though attended with some expence in the commencement; and in a short time, it might be hoped, the expence, if any, would be very trifling.

Besides this attention to the laying down of ground for grass, I think I may add, as also deserving its share of encouragement, an improvement somewhat relative thereto, well adapted to the soil of this country, and warranted by its appearing already, though slowly, to creep into practice; I mean the more general introduction of clover as a cultivated crop. The same means, before suggested, might contribute to effect this also.

These, with probably some improvement on the common construction of the plough, are the objects, which strike my mind, as the first to claim attention, in the present state of tillage in this part of the country.

The mention of a county establishment of the sort I have stated leads me to remark, that it would probably

bably contribute much to the general advancement of agriculture, if there were any fixed place, where those, who should be disposed to make trial of any proposed improvement, not yet commonly known, might be certain at all times of being furnished with the machines, implements, or other means necessary thereto. At present, every one must be sensible how often it happens, that this disposition is frustrated, and favourable opportunities suffered to pass away, from the want of some institution of this kind.

A person hears a new and applauded invention spoken of: he inclines to try it, and desires to know where he can be provided with it; he is told, that he must send to London, perhaps, or Edinburgh, and he thinks of it no more. The limited demand of a single county might not suffice for the support, within itself, of such an establishment, wherein skilful workmen and artificers of various kinds would be required, though even this, on a more contracted plan, might, perhaps, be practicable and expedient: but surely in the capital of the country, at least, and under the direction of some national society, it might be carried on to its fullest extent. The plan, it is true, of the Dublin Society extends to, and in some degree provides for this object; but I do not find, that it furnishes that general and extensive accommodation, which would be desirable.

The improvement of ground, injured by a superabundance of wet, is another point, to which I think some attention might be advantageously directed.

I do not mean, however, to say, that there is at present a general neglect in this particular. Draining, by means of covered sewers, is a good deal practised in this neighbourhood, and with considerable advantage.

Those called fod-sewers, being made in the cheapest and readiest manner, are, for that reason, the most common, and in some soils are said to answer the purpose tolerably well. I shall not detain you with a description of them, as I am sure they are well known to you. But I think there is still room for the exertion of some endeavours, to promote and perfect the practice of this and other methods of correcting a defect, so common in every part of the country, where the soil has a tendency to stiffness, and which lessens in so great a degree the value of its produce. For this purpose it might, perhaps, be deemed advisable to adopt some measures for rendering more generally known the most approved methods, which have been recommended for effecting this valuable improvement. The plan of boring with the auger, by which Mr. Elkington has acquired such high reputation, is not applicable to the species of damaged land I allude to. But in Anderson's Essays, and very likely elsewhere, are contained some directions on this head, which, probably, if they were better known, might be brought into use with advantage. One instance I shall mention, not as
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being the most important I might adduce, but as a few words will suffice for it.

From the hard and almost imperishable nature of the wood of the larch, it has been found, that its smallest branches, such as will serve scarcely any other purpose, form a most excellent material for filling covered drains; in which situation they will remain without decay for a long period. As that tree has, of late years, been planted in considerable quantities about gentlemen's seats, the prunings and withered branches, which are commonly quite disregarded, might, if this application of them were universally known, be turned to a good account, and not a twig of this valuable tree be lost.

The Lancashire miner is an implement, which it might be useful to introduce on this species of wet land; and I myself know instances, in which trial would have been made of it, were it not for the before-mentioned difficulty of procuring any thing in this country out of the ordinary practice.

It may be stated, I think, as a general observation, that endeavours are not used, to the degree they well might be, to promote the advancement of agriculture by that simplest and most operative method, the diffusion of useful information.

The bulky volumes, through which much good practical information lies widely scattered, the generality of farmers can neither be expected to buy nor to read. I should like to see a few pages of well selected matter, respecting husbandry and rural economy, occa-

sionally printed, and dispersed even among the lowest country schools, where it might supersede, with great advantage, much of what is usually taught there. Perhaps, there is no method, whereby that obstinate prejudice of the lower orders, in favour of ancient practices, so often complained of as an unconquerable obstacle to the progress of improvement, could so easily and naturally be induced to give way. Their minds would thus be prepared by early culture, before such prejudices would be formed; and while impressions are easily received; and the zeal, natural to the early period of life, would afterwards prompt them to concur with alacrity and pleasure, in practising the lessons of their childhood. I have read, that in Sweden, from views of this nature, they teach the principles of agriculture to those persons, who are destined to be curates in the country.

I shall now venture to suggest a thought, which, perhaps, may appear ridiculous, but, at the worst, cannot lead into any great error, or destructive expence. In answering your query, concerning the state of inclosures in this neighbourhood, I observed, that on small farms they are generally too numerous, as they are also very bad. Indeed, this could scarcely be otherwise. In the smallest farms, the application of the ground in the three distinct ways of tillage, pasturage, and meadow, is still retained. And as the portion tilled is constantly varying, and, while in that
state,

state, must in some sort be secured from cattle, the divisions thus become extremely minute. When a bit of ground is broken up, a ditch becomes necessary. This work is quickly dispatched; but in the most careless manner, and on the worst construction; and when the present purpose is answered, it lies neglected and crumbling to decay, a useless waste and disgusting to the eye, till, some new occasion coming round, it is made, with the assistance of much varied patch-work, to fulfil once more its original intention. I know nothing, (the wretched cabins of the poor alone excepted) which serves so much to disfigure this fine country, as those unsightly seams, which streak the face of it in every direction. It is not, however, so easy to point out a remedy. The plan of abolishing small farms, by uniting several, has of late years been a good deal acted upon in England, and has divided the agriculturists of that country into two somewhat hostile factions. But the good policy of that plan remains still dubious; and I confess, for myself, I do not feel inclined to favour it, at least beyond a certain extent; for I readily admit the parcelling of land in extremely minute divisions not to be desirable. I have often wished, when offended with the view of some of those mis-shapen things called fences, that it were possible to invent some cheap sort of moveable fence, as of rail, hurdle, stake and rope, or whatever other material might suit best the circumstances of the country, and

and the means of the lower farmers. I am not able to say, how far the thing is practicable; but, perhaps, a Farming society might think it worthy their consideration, and hold out the reward of a premium to the inventor of the cheapest and most efficacious fence of that nature. If such a one, easily shifted, as occasion required, could in any degree be introduced, much fewer of a permanent construction, judiciously disposed, might suffice. Landlords might oblige their tenants, who had but small holdings, to be provided with a proportionate quantity of the moveable kind, or might, perhaps, find it expedient to provide them with it, and might prohibit them from making any new ditch without their approbation. It is an object, which may be thought impracticable, but it cannot be amiss to have noticed it. Many parts of the county of Meath are extremely distressed by the want of fuel, and this circumstance also is a frequent cause of the bad state of the fences, by occasioning the destruction, or discouraging the planting of hedges. The providing of some remedy, which might at least alleviate this want, would, I should imagine, be a proper subject of a society's labours. Might not a premium be offered for planting in the copse way, with the quickest growing trees, for the supply of fire-wood, a certain quantity of bad ground, as coarse, wet, or boggy bottom, and sufficiently securing it in a manner prescribed?

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The scheme might be confined to such parts of the country, as should be destitute of any other convenient means of procuring fuel; we may suppose, for instance, three miles distant from turf-bog, colliery, sea-port, or navigable canal. I should suppose, that this application of such a piece of ground would, certainly, in a short time be found profitable, and that nothing is requisite but some encouragement, in the first instance, in order to rouse the spirit of enterprize necessary for any new undertaking.

Other methods, perhaps, might also be devised of promoting the same object. I have somewhere read a plan, proposed with a similar view, of forming broad fences of several lines of furze, which, it is said, if properly trained and managed, will answer that purpose extremely well, while a large supply of fuel will also be furnished by their alternate cutting. This plan, indeed, seems better adapted to wild and exposed situations, than to the rich and level plains of the county of Meath; others, however, more eligible might be offered, if attention were called to the subject, as a regard to one of the most urgent wants of the poor seems to require.

This letter has extended to a length, so unexpected by myself, and so tedious, probably, to you, that I shall trouble you no further than just to touch on one interesting subject more. It is one, indeed, which constantly offers itself to every person's observation; notwithstanding

withstanding which, I cannot esteem it improper, to bring it forward and press it into notice, whenever an opportunity is given of enumerating the wants of the country. I allude to the general state of the habitations of the peasantry. Certainly, in a few places, the humanity of individuals is conspicuous in the attention they have bestowed on this object. But these are rare instances, and serve to point the attention more forcibly to the wretchedness around them. Here is a spacious field for improvement, and one so important and interesting, that, besides the exertions of individuals, it ought, I conceive, never to be omitted in the plan of any Irish society for internal improvement; though I know not, if it has ever yet experienced such good fortune. The contrast between the stately mansion here, and hard by the filthy hovel, so outrages the feelings of human nature: the advantages, in point of moral effect, of a clean, comfortable, and cheerful dwelling, compared with an abode, dismal, dark, and dirty, are so incalculable: the conscious shame, which must sting every Irish bosom, when the proud stranger seems to dwell, with insulting triumph, on this reproach and scandal of a beautiful country: these considerations, and many more, must satisfy us, that policy, humanity, and a sense of national honour, concur in calling for unceasing exertions to remedy this glaring evil. There is also this strong motive for endeavouring to combine, by some public plan,

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all descriptions of persons in the promotion of this object, that it seems to be one, to which the numerous absentee landlords of the country might more effectually contribute their aid, than to almost any other. It is not, I think, so much the farmer, on the estate of the absentee, who suffers from that circumstance; it is chiefly the day labourer; it is he whose situation is afflictive, compared with that of him, in the same rank of life, who lives under a resident gentleman. If those absentee landlords, therefore, could be induced to appropriate occasionally a sum of money for building, under proper direction, comfortable cottages for the poor on convenient parts of their estates, they would, in so doing, make amends, in a great degree, for the evils flowing from their absence. Some premiums, or well devised honorary distinction, offered by a respectable society to those proprietors of land, who, within a certain period, should erect the greatest number of cottages on their estates, combining, in the greatest degree, the advantages of convenience, cheapness, and durability, and with gardens annexed, might, I should hope, be attended with considerable effect.

Much, however, as I esteem this object to be desirable, yet I am sensible that it must advance, like most others, by slow degrees. The wealth of the country, so inadequate to all the divers operations of national industry, cannot be poured out in great profusion on any one object, however important; and he, who, in
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his individual capacity, regulates himself by this prudent regard to the general circumstances of the country, is, in truth, its most deserving citizen. It is easy for a gentleman, regardless of expence, to lodge a poor working man with whatever magnificence he may fancy; he thus, possibly, bestows comfort on a few persons, at a very needless cost, and gratifies his own taste—but this is all. The man, who proposes only plain neatness, convenience, and economy, does more; he sets a useful example, which his neighbours may be induced to follow. Should any such measure, therefore, as I have mentioned, be adopted, it would be proper to restrict it with the utmost caution, so that works of real practical utility may alone be encouraged, and that vanity may not obtrude itself under the shew of benevolence.

Though the plan of a simple cottage be but a slight matter, yet as, even in so small a work, there may be some scope for contrivance, and a greater attention to arrangement and convenience, than is usually seen, it might be a useful addition to any scheme of improvement of this kind, to circulate such cheap plans, and plain instructions, as should be thought best adapted for this purpose.

There are many plans of cottages given in the first volume of Communications to the Board of Agriculture, but I fear they are, in general, too expensive for this country. They are accompanied, however, with
observations,

observations, which might be found serviceable; and they might likewise be of use in suggesting others, better suited to the state of this country.

It is full time for me to conclude. If, in perusing this long letter, you shall meet with any thing, which you may conceive, in some degree, to repay your trouble, it will sufficiently gratify,

Dear Sir,

Yours truly,

JOHN PRATT WINTER.

No. 7.—*I have been favoured with the following Analysis of the Ore taken out of the Copper-mine at Walter's-town, through Charles Drake Dillon, Esq.*

Dublin, Sept. 15, 1800.

SIR,

Yesterday I saw Doctor Percival, and have the pleasure of informing you, that, far from neglecting the business, which I had requested him to undertake, he has been fully employed in conducting, with patient industry, a number of most difficult and tedious experiments, and has now almost completed an accurate and scientific analysis of your ore. His first operation, by smelting, produced twenty-one parts of copper, from a hundred and twenty parts of ore, or somewhat more than one sixth; but, in the humid way, or
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by means of solution, he has procured thirty-three parts from a hundred and twenty, or more than a fourth part. This produce is very considerable; but I must beg leave to remark, that portions of the same ore often vary exceedingly in value; so that, to render such an enquiry satisfactory and conclusive, specimens from many different parts of the mine ought to be examined. I must also observe that, in smelting, it is scarcely possible to prevent the dissipation and loss of a good part of the metal, and that the analysis, by solution, is usually much more productive. However, as you are to procure the metal by smelting, you ought not to reckon on extracting more than one sixth part.

I have the honor to be, Sir,

Your faithful and obedient

Humble servant,

JOHN PURCELL.

No. 8.—*I have been favoured with the following, from the Rev. George Lambert.*

This rich vein of copper runs in a direct line for above a mile, from the south side of the Boyne, until it reaches that river. It has been worked by two different companies, but never done justice to, and the ore, which was raised by both, was transmitted to
Liverpool,

Liverpool, where it met with general approbation as to its quality. The difficulty of working it arises from the water, which springs a very few fathoms below the surface of the earth; and in many places the copper has been found within fifteen or twenty fathoms from the top. It had been originally intended, had the work been carried forward, to have run a drift from the Boyne to the work, to bring off the water; and it was supposed, that the expence attending this would have been amply repaid as they proceeded, because ore would have been found in almost every field. However, in consequence of late mechanical improvements, all this might now be considered as unnecessary.

I remain, &c.

GEORGE LAMBERT.

No. 9.—*A particular description of Vetches or Tares, by
Doctor Gibney.*

The species of vetches are very numerous, but those cultivated are known to farmers under the two general names of spring and winter vetches.

Their use is of so general an application, that few, who once cultivate them, ever after omit having part of their grounds occupied in this way every year, as they afford green or dry food of the most grateful nature to horses, black cattle, and sheep, fattening them

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to the highest degree wished for. Respecting the nature of the soil, in which they are found best to answer, it is rather difficult, from our present knowledge, to speak with certainty; they appear, however, to delight most in what is called a light sandy soil, or rather what is commonly understood by a barley soil, yet they are found to succeed well in most situations.

Where ground is much infested with couch-grass, or other unprofitable vegetable productions, they contribute, from their shelter, to obstruct the increase of those proofs of negligence and bad husbandry; but then we are not from this to conceive, that land, in this state, is as well suited to their nature, as if it was in a more cleanly condition. Where couch-grass much abounds, or thistles, or, in short, weeds of any kind are suffered to remain, they retard the growth of vetches; so that, though they may be looked upon as a most useful green crop, and tend towards keeping the soil clean, and, as the expression is, in heart, yet to them alone we must not trust for converting land, from the state of silt and wretchedness, in which we frequently have opportunities of beholding it in this country, to a profitable condition. The ground for vetches should undergo a better preparation than we generally see practised. If it is intended to sow the winter vetch, two previous ploughings are necessary; if the spring vetch, a winter fallow; if the ground is dirty, two or three ploughings will be requisite, and sixteen stone of seed

feed per acre, at the least, should be sown; for, the heavier the crop, the better will the purposes of cleansing be answered: indeed it is generally considered, that, the heavier the crop of vetches, the more benefit the ground receives from the culture of them.

From August to October, while the earth retains some degree of friability, and after light rain, you sow broad-cast from ten to fourteen stone an acre, harrowing extremely well; the seed being well chosen, lest the spring vetch should be used as seed at this period, through mistake, for the winter; the latter having been found capable of withstanding the severest frost, whilst the former invariably perish under those circumstances.

Some think shoveling necessary, in order to cover the seed better, but it will succeed well without this practice. Measuring, previous to a crop of vetches, where the ground is much exhausted, is of the most manifest utility; yet, where the most unprofitable crops of grain might be expected, an advantageous and abundant growth of vetches will succeed, to which may follow turnips or oats.

The spring vetch should be sown very early in the season, and the time of their arriving at perfection considered and anticipated with due deliberation, in order that the succession of green food may follow at proper periods, and in necessary quantity, proportionate to the number of cattle to be fed on the farm. The winter vetch will precede the other a full fortnight, which makes

makes it of more value; and the periods of time, at which either kind of vetch is sown, will not be in a regular ratio to the periods of their coming to perfection: those, sowed early, will hold this proportion with some regularity; but those, put in the ground at a later moment of the season, will succeed more rapidly to the preceding growth, as may be observed in green peas cultivated for culinary purposes.

The best form for the ridges is that, in which their middle is raised a good deal higher than towards the furrow, and in which their breadth is from four to five feet. From this form two advantages derive; the vetches, when approaching to maturity, droop and lie over the surface of the soil, smothering, by their covering, the vegetable productions beneath their growth; this takes place more particularly, when the ridges are of the form I speak of, as their flexible extremities bend to the curve of the ridge, which, when flat, is not the case, as the stems towards the soil become hard, which occasions their extremities to lie less close to the surface, than when the ridges are formed as I mentioned; besides, the season for saving them for dry fodder, or for seed, is sometimes so moist, that the vetch will become rotten much sooner, should the surface be flat, as the high ridges admit a current of air, and throw the moisture into the furrow.

The spring, and even the winter crop of vetches, has been at times so discouraging at the commencement
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of their growth, that I have been inclined to despair of their progress, and tempted to plough the ground, in which they were sown, and convert it to some other purpose:—but, as the spring season advances, their growth, which at first was slow and unpromising, advances with rapidity, and puts on a rich and even verdure, covering the whole surface of the field with a most promising and luxuriant crop.

Preparatory to cutting vetches, the ground should be rolled in the spring season, in order to level the surface, so as that they may be cut with the scythe in place of the reaping-hook or sickle, the former being more expeditious, and a much cheaper mode. The scythe, used on this occasion, is what is commonly called a garden scythe, the blade of which is some inches shorter than the common scythe.

Vetches, when intended for hay or dry fodder, should be cut when the pod begins to form, and while the blossoms still remain on the stem. Should they be cut sooner, the quantity will be much less than at this period; and should they be cut much later, the part of the stems next the root will become rotten, and so strong that cattle will reject the greater part of them. I have seen vetches cut, when the blossom was just forming, and from wet weather coming on, it became necessary to desist: the part of the crop, remaining uncut for some days, increased beyond expectation, at the same time that their quality was equal to what was

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first cut down. This points out the necessity there is for judging with precision the exact period of time, at which they should be cut for hay, so as that the stems may not, when dry, be so strong as to be rejected by cattle, at the same time observing not to cut them so early, as to lose the increase, that may be expected between the time, when the pod forms, and when blossoms open on the middle and utmost extremities of their stem.

When vetches are required for seed, there is much care necessary in drying and saving them; even in fine weather they take a long time and a great deal of sun. After being cut they should be carefully turned, and tossed as little as possible; as well for seed as for hay this must be observed; and, when sufficiently dry, they must be tied into sheaves of a moderate size, for the convenience of handling, and then formed into conical cocks of a middling size, thence into larger, and from that carried into the farm-yard, and carefully thatched, as at this stage, on receiving wet, they open their pods, and shed their seed in great quantities.

No.

No. 10.

ON LIME.

BY DOCTOR GIBNEY.

TO the modern discoveries, in the science of chemistry, is principally due the knowledge, which we at present possess, of the properties of pure quick-lime, calcareous earth, chalk, marle, &c. and which must render their application more certainly useful to the purposes of ameliorating those soils, to which they are more particularly adapted.

It has been a generally received opinion, among some of our most eminent chemists, that lime never existed in nature in its pure state, and further observations confirm this idea; as it is always observed conjoined with carbonic acid gas, or fixable air. Certainly it is found united with iron and siliceous earth, and often with an admixture of marine salt of magnesia, petroleum, fluor, acid, &c. &c.; but, for our present purpose

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it is sufficient to note, that the union of lime and fixable air constitutes what is understood by calcareous earth.

This simple and beautiful fact was first discovered by the ingenious and celebrated Doctor Black, of Edinburgh, who, in his experiments on lime and magnesia, has proved incontestibly, that calcareous earth, deprived of fixable air, is caustic; and, though caustic, when again saturated with this air, it becomes effete.

Quick-lime is totally soluble in water, yet it requires a great proportion of water for the purpose of dissolving it; but, when a portion of fixable air is added to the solution, the compound becomes calcareous earth, is no longer soluble in water, and falls to the bottom in form of precipitate; or, if the surface of lime-water is exposed to the atmosphere, it derives hence fixable air, and forms an insoluble pellicle suspended on its surface. In lime-water, the general proportion of lime in solution, as to the quantity of water, is as one to seven or eight hundred.

From the above, lime should be considered as in its purest state, when brought to its highest possible degree of causticity, in which its solvent powers are the greatest; agreeable to a received maxim, that bodies in nature, which are least compound, and nearest to simplicity, have the greater tendency to unite with, or dissolve other substances; but yet in quick-lime we observe a degree of repulsion, under certain circumstances,

stances, to fixable air, with which we should naturally, from their being so often found conjoined, suppose it powerfully to attract: this may be accounted for, by considering the influence, which fire has in expelling fixable air from its union with calcareous earth; and as, in this action, a certain degree of fire becomes inherent among its particles in the state of latent heat, it still prevents its uniting with the above air, while this latent heat holds a place in its composition. But, in order to shew that this doctrine is not merely ideal, let a certain quantity of water be added to quick-lime; the instantaneous consequence is an evolution of heat, a moment before latent, now becoming sensible to our feelings, which never is the case, except in its transitions from one combination to another. On this addition of water to quick-lime, the affinity being stronger between those, than between lime and the heat that existed therein, the latter bursts from its incarceration, intermingles itself with the surrounding atmosphere, crumbles the lime by its expansion; which forms a compound with the water, and, by the loss of its inherent fire, becomes more susceptible of union with fixable air, which gradually renders it inert.

Some species of lime possess a greater capability of uniting with water, and giving out their heat, than others; but should water, in an over quantity, be suddenly poured on any quick-lime whatever, the evolution of heat is not so perceptible, nor does the elective attraction

attraction take place so perfectly; hence the necessity of attending, in the application of lime in agriculture, to this particular, so as to withhold it from grounds not perfectly drained; and when its application is to a soil properly fitted to receive it, we should be particular, that it be covered in heaps with mould, in order that rain may not suddenly deprive it of its latent heat, and prevent its crumbling, in which state its attractive powers are necessarily greater.

Caustic lime destroys animal and vegetable substances, not only by the action of its internal heat, but by its disposition to form a union with oils and acids contained therein; and to this process principally did Doctor Black impute the advantage, which soils derive from the accession of quick-lime, in their composition, and certainly it is so in some degree. But we must likewise consider, of how much consequence calcareous earth or marle, limestone-gravel, &c. are, in giving vegetative vigour to the soil, independent of any caustic quality, and which owe their influence to the agency of fixable air, which these substances imbibe from the atmosphere, imparting it gradually to the evening dews, or vernal showers, which, thus saturated, is drank in by the absorbents of plants, serving conjointly, through the agency of heat, and the action of the surrounding air, so much concerned in vegetation, as the grand pabulum of their nourishment and growth. On the absence or presence of this principle in soils, arises their state of exhaustion,

exhaustion or vigour. An experiment of Mr. Ruckert's may serve to simplify the operation of fixable air in vegetation; he planted two beans in pots of equal dimensions filled with garden mould; the one was watered almost daily with distilled, the other with water impregnated with fixable air, in the proportion of half a cubic inch to one ounce of water; both were exposed to all the influences of the atmosphere, except rain. The bean, treated with aerated water, appeared over ground nine days sooner than that moistened with distilled water, and produced twenty-five beans, whereas the other pot produced only fifteen. The same experiment was made on stock-july-flowers, and other plants, with equal success.*

In a late publication on chemistry, by Mr. Robert Heron, which is as perspicuous in its style as generally useful in its application, we find some new and curious ideas respecting lime. He contends with great ingenuity, that *lime* is *oxygen* in a concrete state, and supports this opinion with some well-established chemical facts—namely, that, as there is scarcely any solid substance in nature, which may not be, either in combination or suspension, brought into a gaseous form, a possibility presents itself of lime being the basis of gas oxygen.

Dividing all bodies in material nature into those, which are combustible and incombustible, or matters capable

* 2nd Chy. Ann. 1788—399.

capable of union with oxygen, or not susceptible of such union, we find lime, pot-ash, soda, &c. among the latter; and in their union and compounds, with which they enter, particularly lime, there exists an agency remarkably similar to oxygen.

There is not a doubt among philosophers at present, but that the primary production of lime is entirely effected by the organic functions of animals in general, which is confirmed from our knowing, that neither quick-lime nor calcareous salts of any kind are ordinarily taken as nourishment, and that lime is the basis of animal shells and bones; now, if this be admitted, these functions must either create it from nothing, or from what is taken in during respiration or as food; and to this quality of oxygen thus concentered, either into shell, bone, &c. is due the subsequent formation of limestone in those vast petrifications, which are so common in this island, as well as in situations more distant, particularly in part of the famous rock of Gibraltar, and the stone, of which the castle of Cairo had been built, which consists of calcareous particles resembling pieces of money, called from hence the *quismatical shell*; these shells split with great facility, if taken longitudinally; within is found a very thin substance, disposed in a spiral form; it serves as lodgment for the animal, that forms it. A stone, in every respect similar to this, is found at Laon, the principal town of the department of Aisne, where it has been employed

employed in building*; so that, conceiving the original formation of limestone derivable from this source, the explanation of its action, in aiding vegetable growth, becomes more simple.

A mixture of carbon, oxygen, and hydrogen, with almost any soil, forms of all others the most powerfully fertile composition. Their agency in forwarding vegetation is so considerable, that the most unobserving must be struck with the effect, though the cause may be obscure. The stimulus of oxygen to vegetable as well as animal life, for any continuance, is too powerful in an unmixed state: hence the admixture of carbon is of importance, not only in moderating its powers, but as serving in the vegetative process as an ingredient necessary towards their growth and nourishment. Pure lime destroys vegetable life; effete lime is a principal support of vegetable existence: oxygen, however, in vegetation has a wonderful effect; indeed, where it is absent, the process ceases; its effects are every where perceived as gradually imparted from the atmosphere, but, when artificially and judiciously applied as in lime, its useful consequences are considerably augmented. A deficiency of this wonderful fluid in the existing world is marked by the pallid visages of the beings, who live in crowded cities, as well as in the languid growth of plants destined to pine away their beauties in such contaminated air.

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* Memoirs relative to Egypt under Buonaparte, p. 6.

Upon the whole then, speaking in terms as explicit as the nature of the subject will admit, we are to consider limestone reduced to small particles, gravel of the nature of limestone, marle, &c. as having existing within themselves a kind of air, of considerable use in the growth of plants, which water coming in contact with is capable of imbibing; and *that water*, thus impregnated, imparts to vegetables the air it contains with some of itself, through the medium of the soil, in which they are placed; that the incumbent air gives to those particles of limestone a constant supply of the necessary air, for which those particles have a powerful attraction; and this is facilitated by those being kept as near the surface of the soil as possible, it being a well known fact, that limestone gravel, &c. not in contact with the air, is not of one half the use as when it is, and for the above reason; and that, the more gradually roche lime is suffered, when laid on the soil, to soak in the moisture of the air, so much the better; that, the longer it is kept compleatly on the surface of the soil, the better, provided it be not intended, that it should act as a caustic on the roots and fibres of noxious plants, in which case, as soon after it is slacked as possible, it should be ploughed in, and left to remain long enough for its causticity to have an effect, after which an exposure of its particles to the air will render the process compleat.

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Those soils, to which lime is applied with most advantage are clayey, clayey loam, sandy, sandy loam, gravelly loams, or reclaimed bog when well drained. Its application in chalky loam, or in soils of a chalky nature, such as those frequent in England, is injurious, and, when used through ignorance, has more than once brought it into disrepute. *Manures*, as the most learned chemist of our country expresses it, *are applied to supply either the defective ingredients of a soil, or improve its texture, or correct its vices.*

